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ABSTRACT

This 27th annual report summarizes results of the 1992-93 Survey of Earned Doctorates, which collected data from graduates as they completed requirements for their doctoral degrees. The survey included 39,754 research and applied research doctorates in physical sciences, engineering, life sciences, social sciences, humanities, education, and other professional (such as business) fields. Data are presented in 19 tables, covering number of doctorates awarded, gender of doctorate recipients, citizenship status, leading countries of origin of non-U.S. citizens, leading U.S. baccalaureate and doctoral institutions of minority doctorate recipients, major doctorate field, median years to doctorate, primary sources of support, levels of debt, postgraduation commitments, postdoctoral location of non-U.S. citizen doctorate recipients, and employment sector of doctorate recipients. The report also analyzes trends in doctorate production from 1963 to 1993; general demographic characteristics of doctorate recipients in terms of gender, citizenship, and racial/ethnic minority status; the field of doctorate; time-to-degree; financial support; and postgraduation plans. Appendices provide supplementary tables on 1993 doctorate recipients, trend data on 1983-1993 doctoral cohorts, technical notes, and a copy of the survey questionnaire. (JDD)

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Summary Report 1993

Doctorate Recipients from United States Universities

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Summary Report 1993

Doctorate Recipients from United States Universities

The Survey of Earned Doctorates is conducted
for the following agencies of the U.S. government:

National Science Foundation
U.S. Department of Education
National Institutes of Health
National Endowment for the Humanities
U.S. Department of Agriculture

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OFFICE OF SCIENTIFIC AND ENGINEERING PERSONNEL
NATIONAL RESEARCH COUNCIL

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NOTICE: The project that is the subject of this report was approved by the Governing Board of the National Research Council, whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The survey project is part of the program of the Office of Scientific and Engineering Personnel (OSEP).

This report has been reviewed by a group of persons other than the authors according to procedures approved by a Report Review Committee consisting of members of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

The National Academy of Sciences is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. Upon the authority of the charter granted to it by the Congress in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters. Dr. Bruce M. Alberts is president of the National Academy of Sciences.

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The National Research Council (NRC) was organized by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy's purposes of furthering knowledge and of advising the federal government. Functioning in accordance with general policies determined by the Academy, the Council has become the principal operating agency of both the National Academy of Sciences and the National Academy of Engineering in providing services to the government, the public, and the scientific and engineering communities. The Council is administered jointly by both Academies and the Institute of Medicine. Dr. Bruce M. Alberts and Dr. Robert M. White are the chairman and vice-chairman, respectively, of the National Research Council.

This report is based on research conducted by OSEP with the support of the National Science Foundation (NSF), the National Institutes of Health (NIH), the National Endowment for the Humanities (NEH), the U.S. Department of Education (U.S. Dept. of Ed.), and the U.S. Department of Agriculture (USDA) under NSF Contract No. SRS-9309720. Opinions, findings, conclusions, or recommendations expressed in this publication are those of OSEP and do not necessarily reflect the views of the sponsoring agencies.

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Available from: Doctorate Records Project
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PREFACE AND ACKNOWLEDGMENTS

This report presents a summary of the results of the 1992-93 Survey of Earned Doctorates (SED), which has been conducted each year since 1958 by the National Research Council's (NRC's) Office of Scientific and Engineering Personnel (OSEP) and its predecessor organizations. Questionnaires, distributed with the cooperation of the graduate deans of U.S. universities, are filled in by graduates as they complete requirements for their doctoral degrees. The doctorates are reported by academic year (from July 1 of one year through June 30 of the following year) and include *research* and *applied-research doctorates* in all fields.[1] Doctoral degrees such as the Ph.D., D.Sc., and Ed.D. are covered by this survey; professional degrees (e.g., M.D., D.D.S., J.D., Psy.D.) are not covered. A full list of included degrees can be found inside the back cover. For convenience throughout this report, "Ph.D." is used to represent any of the doctoral degrees covered by the survey.

This *Summary Report* is the 27th in an annual series of reports that began in 1967.[2] All survey responses become part of the Doctorate Records File (DRF), a virtually complete database on doctorate recipients from 1920 to 1993. More than 88 percent of the 1,103,196 records now in the DRF were created from results of the 1958-1993 surveys. For doctorates granted during the 1920-1957 period, information was compiled from commencement bulletins, registrars' records, and other published material.

The conduct of the SED, the maintenance of the resulting data file, and the publication of this report are funded jointly by the National Science Foundation (NSF), the National Institutes of Health (NIH), the National Endowment for the Humanities (NEH), the U.S. Department of Education (U.S. Dept. of Ed.), and the U.S. Department of Agriculture (USDA). Susan Hill (NSF) serves as the project officer for the agencies. In addition, constructive reviews of the design and analysis of the survey by Mary Golladay (NSF), David Chananie (NIH), Jeffrey Thomas (NEH), Nancy Schantz (U.S. Dept. of Ed.), and Jay Jackman (USDA) have increased the survey's relevance to national policy issues. We would also like to acknowledge the graduate deans and their assistants in the doctorate-granting institutions for their interest and assistance. It is through their cooperation that the DRF continues to serve as a useful resource for monitoring developments in graduate education in the country. Finally, we would like to thank all of the doctorate recipients who have completed the SED over the years.

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[1] The Survey of Earned Doctorates collects information on *research* doctorates only. This differs from the institutional collection of numbers of degrees that is done by the U.S. Department of Education on *all* doctorates. For an evaluation of the differences, see: National Science Foundation. 1993. *Science and Engineering Doctorates 1960-1991*. NSF 93-301. Detailed Statistical Tables. Washington, D.C. Pp. 2-6.

[2] Trend data from earlier periods can be found in Harmon, Lindsey R. 1978. *A Century of Doctorates: Data Analysis of Growth and Change*. Washington, D.C. National Academy of Sciences.

The 1992-93 Survey of Earned Doctorates was conducted under the administrative supervision of Paula Ries. The production of this year's report was supervised by Delores Thurgood, Senior Research Associate. She and Julie Clarke collaborated on the development of the report and shared the responsibility of analyzing the data and drafting the text. George Orvis and Ms. Thurgood generated the data from the Doctorate Records File, and Ms. Thurgood drafted the technical notes. Martha Bohman, Ms. Clarke, and Mr. Orvis prepared the final tables and figures for the report.

Special appreciation is also expressed to the following people: Eileen Milner, manager of the unit responsible for collecting and processing the survey forms; John Hines, coding supervisor and institutional liaison; Gedamu Abraha and Daniel Fulwiler, coordinators of the follow-up effort; Frann Bell, Joyce Hendrickson, and Kevin Williams, full-time coders; Mary Wanyoike, senior administrative assistant; and the many hourly coders who contributed to the survey's processing. Thanks are also expressed to Maren Herman for her able service as project programmer, to Joseph Finan for his programming assistance, and to George Boyce for his supervision of computer operations.

The work of this project was overseen by the Advisory Committee of the Office of Scientific and Engineering Personnel, which is concerned with those activities of the NRC that contribute to the effective development and utilization of the nation's scholars and research personnel. In addition, an advisory panel made recommendations on the improvement of this important survey. Alan E. Fechter, Executive Director of OSEP, and Marilyn Baker, Associate Executive Director, also provided helpful guidance. Suggestions for improvement of the content or format of the report, other comments, and questions are welcome and may be directed to the authors of this report.

Linda Wilson, Chair
Office of Scientific and Engineering Personnel
Advisory Committee

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INTRODUCTION

Summary Report 1993 is the 27th in a series of reports on research doctorates awarded by U.S. colleges and universities. Like its predecessors, this report presents trends in doctorate production in the United States, describing the general demographic characteristics of doctorate recipients and the seven broad fields in which they earned their degrees. Each of the seven broad fields consists of several "major" fields (e.g., biological sciences is a major field within the broad field of life sciences, and psychology is a major field within the broad field of social sciences). The doctorate recipients themselves report their field of study and are counted accordingly. For a list of the fields discussed in this report, see the inside back cover and the specialties list in Appendix D. (Note: These field groupings may differ from those used by federal sponsors of the survey.)

The front section of *Summary Report 1993* presents brief narratives of key survey findings, accompanied by figures showing selected trend data. The numbers and percentages from which the figures were drawn are provided in a set of tables following the front section; relevant tables are referenced at the bottom of the figures. The front section also includes major findings from data presented in tables but not in figures.

Although similar in content to last year's report, *Summary Report 1993* presents additional data on race/ethnicity. Three tables that were popular with readers of past reports have been reintroduced: Table 5 (and Figure 7) display the field distribution of U.S. minority Ph.D.s, and Tables 6 and 7 list the leading baccalaureate and doctorate institutions of minorities.

Supplementary tables on 1993 doctorate recipients are displayed in Appendix A, and trend data on the 1983-1993 Ph.D. cohorts are presented in Appendix B. Appendix C provides technical notes that include nonresponse rates and other information related to tables and figures in the body of the report. Appendix D contains a copy of the survey questionnaire.

Additional information is available from the Doctorate Records Project upon request. For a cost, the Project offers tables on the baccalaureate origins of Ph.D.s from 1920 to 1992 and tables on the doctoral specialties of 1976-1993 Ph.D.s, by citizenship, race/ethnicity, and gender. Customized tables can also be prepared at cost. In addition, a special issues brief on trends in postdoctoral appointments will soon be available free-of-charge. For more information, please contact:

Doctorate Records Project
National Research Council
OSEP—Room TJ 2006
2101 Constitution Avenue, N.W.
Washington, D.C. 20418

Phone: (202) 334-3161

*** IMPORTANT NOTICE ***

The estimates reported for the Survey of Earned Doctorates (SED) are simple tabulations of all available information, with no adjustment for nonresponse. Thus, differences in response rates from year to year can produce numerical fluctuations that are unrelated to true trends.

Response to the SED has been 95 to 98 percent over the years, except during the 1980s when it gradually declined to 92 percent. In an effort to improve the response rate, the survey methodology has undergone some revision in the years since 1989. Response has risen as hoped, stabilizing at 95 percent during the last three years (1991 to 1993). (Note: These percentages represent *self-report rates*, i.e., the proportion of survey forms completed by doctorate recipients. Questionnaires filled in with partial information by either the doctoral institution or staff of the National Research Council are not included in these self-report rates *but are* included in tabulations in this report.) The self-report rate for 1993 may increase somewhat in the next year if additional questionnaires are received from doctorate recipients. See page 82 in Appendix C for a table giving survey response rates from 1980 to 1993.

Item response rates have shown a parallel improvement since 1990—a natural consequence of the increase in the overall self-report rate, as well as a result of format revisions to the questionnaire and follow-ups for missing information. In 1990, new follow-up procedures were implemented, increasing coverage of several variables (birth year, gender, race/ethnicity, citizenship status, country of citizenship, baccalaureate year and institution, and postgraduation plans). Response rates for these variables have thus improved—especially for citizenship and race/ethnicity, resulting in an increase in the reported numbers of minority Ph.D.s. Postsurvey adjustment to data was greatest in 1990 and 1991, with the largest impact on the number of black Ph.D.s. For both of these years, the total number of black Ph.D.s increased by about 7.5 percent in the year after survey closure. Postsurvey adjustments were much smaller for 1992 data (a 1.4 percent increase in black Ph.D.s) because the survey cycle was extended a month to allow receipt of additional follow-up information before closure; the same is expected for 1993 data.

All adjustments to data are presented in reports subsequent to the initial report for a survey. Thus, updates for 1990 appeared in *Summary Report 1991*; those for 1991 appeared in *Summary Report 1992*; and those for 1992 are included in this year's report (see Appendix Table B-2). The data for 1993 will likewise be subject to further revision, but as for 1992, adjustments are expected to be minimal. Updates to 1993 data will be presented in next year's report.

In using SED data, the reader should keep in mind that numerical trends are affected by fluctuations in response rates. Increasing or decreasing numbers in a citizenship or racial/ethnic group reflect to some degree any upward or downward change in both overall survey response and item response.

TRENDS IN DOCTORATE RECIPIENTS

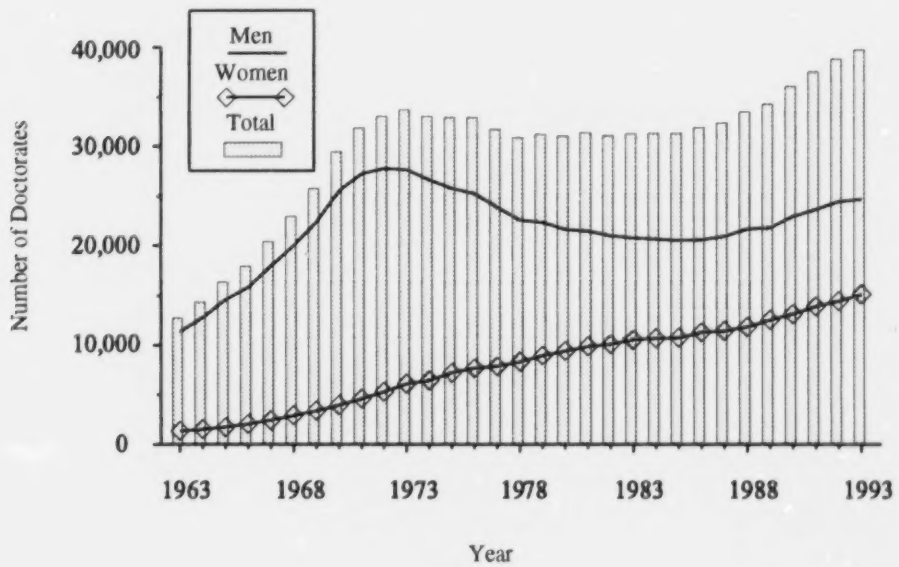
Selected Demographic Characteristics

The number of new Ph.D.s increased to an all-time high of 39,754 in 1993. This record continues the upward trend in doctoral attainment that started in 1986 after a period of stagnation during the late 1970s and early 1980s. The doctorates awarded in 1993 were granted by 368 colleges and universities in the United States and Puerto Rico.

- Women continued to earn increasing numbers of Ph.D.s (15,108 in 1993), while men still fell short of their record number of doctorates in 1972 (24,646 in 1993 compared to 27,754 in 1972).

- Whereas the number of male Ph.D.s barely doubled from 11,336 to 24,646 over the last three decades, the number of female Ph.D.s increased nearly elevenfold from 1,392 to 15,108. Women's representation grew from 11 percent in 1963 to 38 percent in 1993.

FIGURE 1 Doctorate recipients, total and by gender, 1963-1993.



See Tables 1 and 2.

SOURCE: National Research Council, Survey of Earned Doctorates.

U.S. citizens earned more than two-thirds (26,386) of the doctorates awarded in 1993. However, the share for non-U.S. citizens has increased steadily over the last 30 years, rising from 13 percent (1,605 Ph.D.s) in 1963 to 32 percent (12,173 Ph.D.s) in 1993.

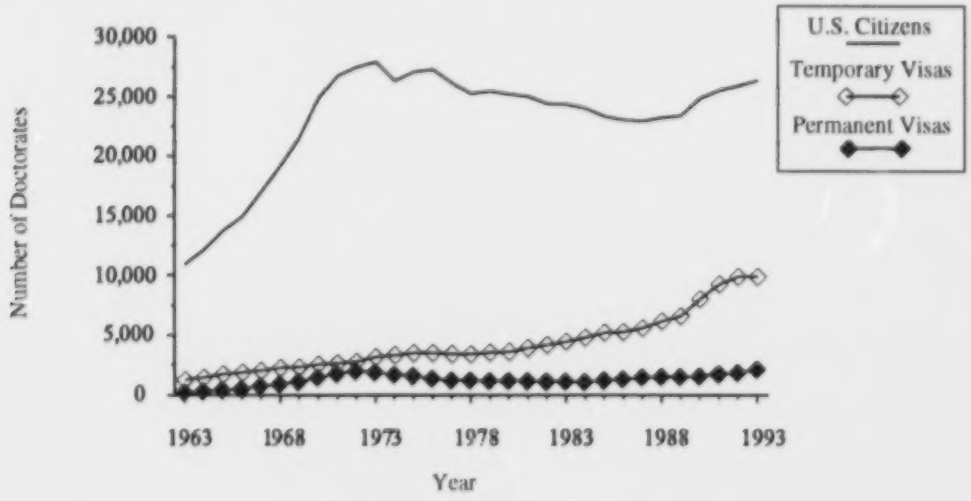
- In 1993, non-U.S. citizen Ph.D.s on temporary visas outnumbered those on permanent visas by more than four to one–9,923 compared to 2,250. Temporary residents earned 26 percent of all Ph.D.s, whereas permanent residents received only 6 percent. (Note: Temporary residents are nonimmigrants who are granted visas for a specified temporary period of time. Permanent residents are immigrants who are granted legal permanent residence in the United States.)

- After 14 years of significant annual increases, the number of doctorates earned by temporary residents appears to have leveled off. However, it is too early to determine if this is the beginning of a new trend. Both the number and the proportion of Ph.D.s received by temporary residents were about the same as last year. Since 1963, temporary residents have increased their share of Ph.D.s from 10 to 26 percent.

- Permanent residents doubled their representation among doctorate recipients from 3 percent in 1963 to 6 percent in 1993. Moreover, permanent residents earned 2,250 degrees in 1993, surpassing their previous high of 2,093 doctorates in 1972.

- Over half of all non-U.S. Ph.D. recipients originated from four Asian countries: the People's Republic of China (19 percent), Taiwan (12 percent), Korea (12 percent), and India (9 percent). (See Table 4.)

FIGURE 2 Doctorate recipients, by citizenship, 1963-1993.



See Tables 3 and 4.
See technical notes in Appendix C for rates of nonresponse to the question on citizenship status.

SOURCE: National Research Council, Survey of Earned Doctorates.

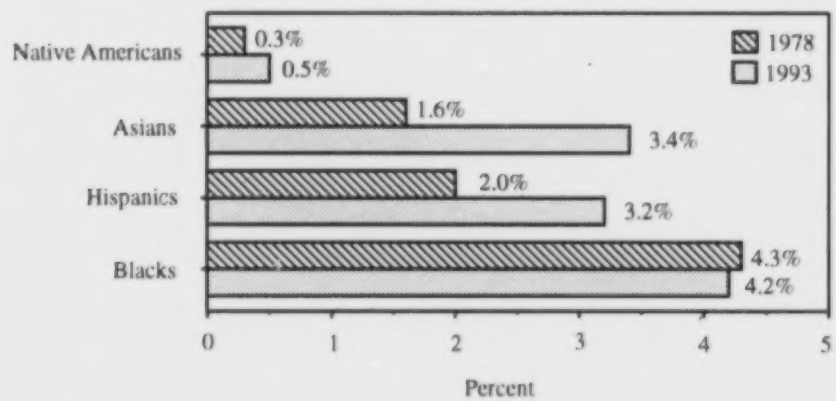
Just over 11 percent of the doctorates awarded to U.S. citizens in 1993 were earned by racial/ethnic minorities–Asians, black Americans, Hispanics, and Native Americans. This represents an increase in minority representation of 3 percentage points since 1978 and a half-point increase since last year.

- Most U.S. minority groups increased their numbers and proportions of Ph.D.s since 1978 (except for blacks, whose 1993 proportion was just under that in 1978). Asian Ph.D.s experienced the largest growth, more than doubling their representation. (See Appendix Table B-2.)

- Black Americans received 1,106 degrees in 1993, continuing an increase in awards that began in 1988 (except for a dip of less than 4 percent between 1991 and 1992). This upward trend reversed a period of decline in the number of black Ph.D.s from 1972 to 1987. The 1,106 doctorates awarded in 1993 topped the 1,031 Ph.D.s earned by blacks in 1978 and nearly reached the all-time peak of 1,113 Ph.D.s in 1977. Blacks' 4.2 percent share of doctorates in 1993 was about the same as in 1978 (4.3 percent) and just slightly less than in the peak year of 1977 (4.4 percent).

- Of the top 21 institutions (ranked by number of Ph.D.s) that awarded bachelor's degrees to blacks who later received Ph.D.s between 1989 and 1993, 17 are Historically Black Colleges and Universities (HBCUs). Three of the leading Ph.D. institutions (ranked by the number of Ph.D.s) are also HBCUs. (See Tables 6 and 7.)

FIGURE 3 Percentage of doctorates earned by U.S. minorities, 1978 and 1993.



NOTE: Percentages are based on the number of U.S. citizen Ph.D.s with known race/ethnicity. "Native Americans" includes American Indians and Alaskan Natives.

See Appendix Table B-2.
See technical notes in Appendix C for rates of nonresponse to citizenship and race/ethnicity.

SOURCE: National Research Council, Survey of Earned Doctorates.

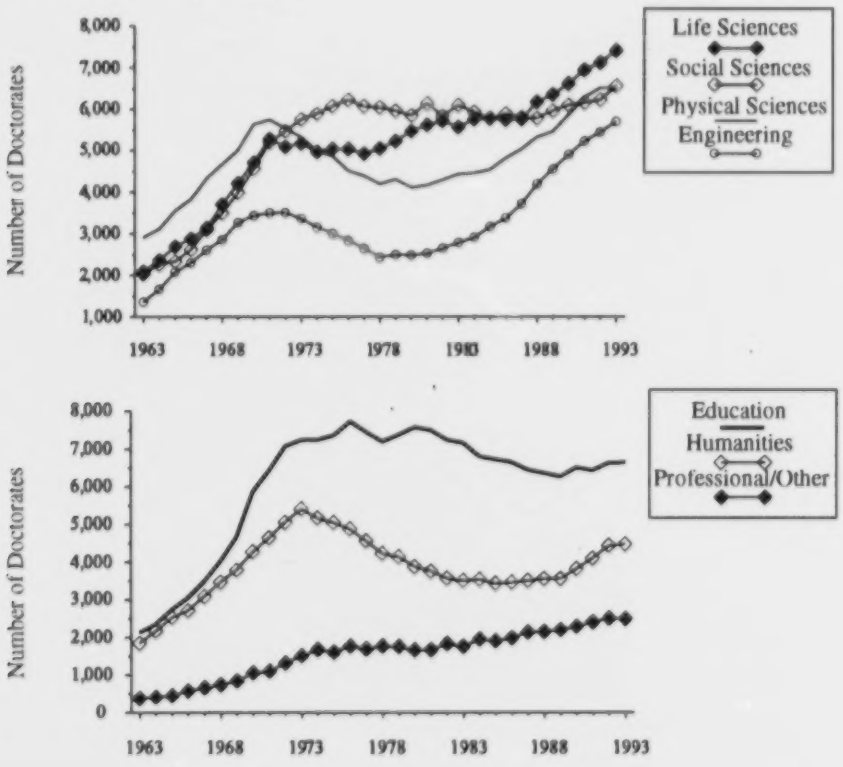
Field of Doctorate

Of the seven broad fields of study profiled in this report, life sciences had the largest number of Ph.D.s–7,397 in 1993. (See Table 2.)

- Within science and engineering, life sciences outnumbered social sciences (6,545 Ph.D.s), physical sciences (6,496 Ph.D.s), and engineering (5,696 Ph.D.s). Engineering and physical sciences lost ground to the life and social sciences during the 1970s and early 1980s, but began to close the gap in the mid-1980s.

- Among the nonscience fields in 1993, education continued to outstrip humanities and professional/other fields, producing 6,647 doctorates compared to 4,481 in humanities and 2,492 in professional/other fields. However, the number of Ph.D.s in professional/other fields has increased at a fairly steady rate since 1963, and the number of doctorates in humanities is at its highest level since 1977.

FIGURE 4 Field of doctorate, 1963-1993.



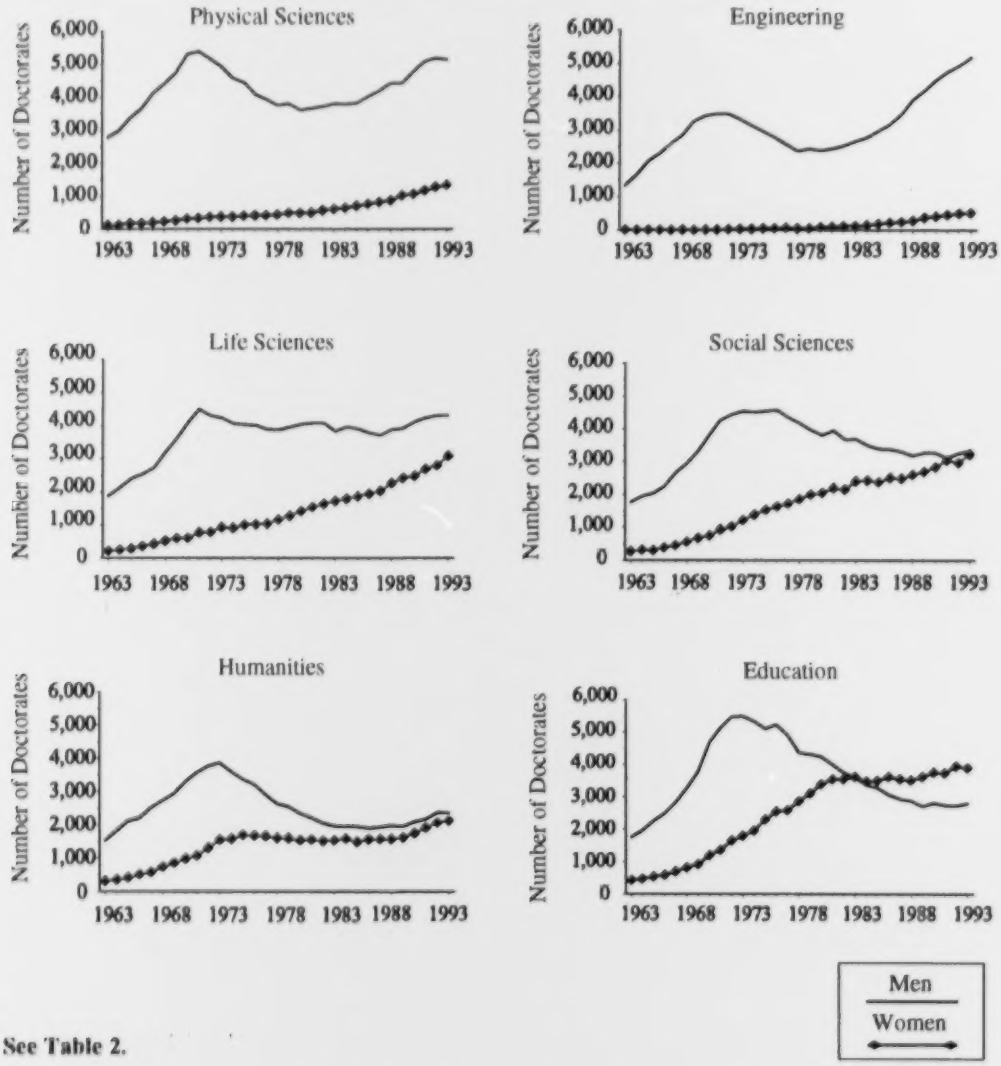
See Table 2.

SOURCE: National Research Council, Survey of Earned Doctorates.

In 1993, doctoral awards to men surpassed those to women in all but one broad field—education. Women predominated in the field of education with 59 percent of all doctorates and neared parity in social sciences and humanities. However, women remained underrepresented in the fields of engineering (9 percent of Ph.D.s), physical sciences (21 percent), and life sciences (42 percent).

- While women Ph.D.s increased in every broad field over the last 30 years, men experienced major declines after 1973 in social sciences, humanities, and education. Only half as many men received education doctorates in 1993 as in 1973.

FIGURE 5 Field of doctorate, by gender of doctorate recipients, 1963-1993.



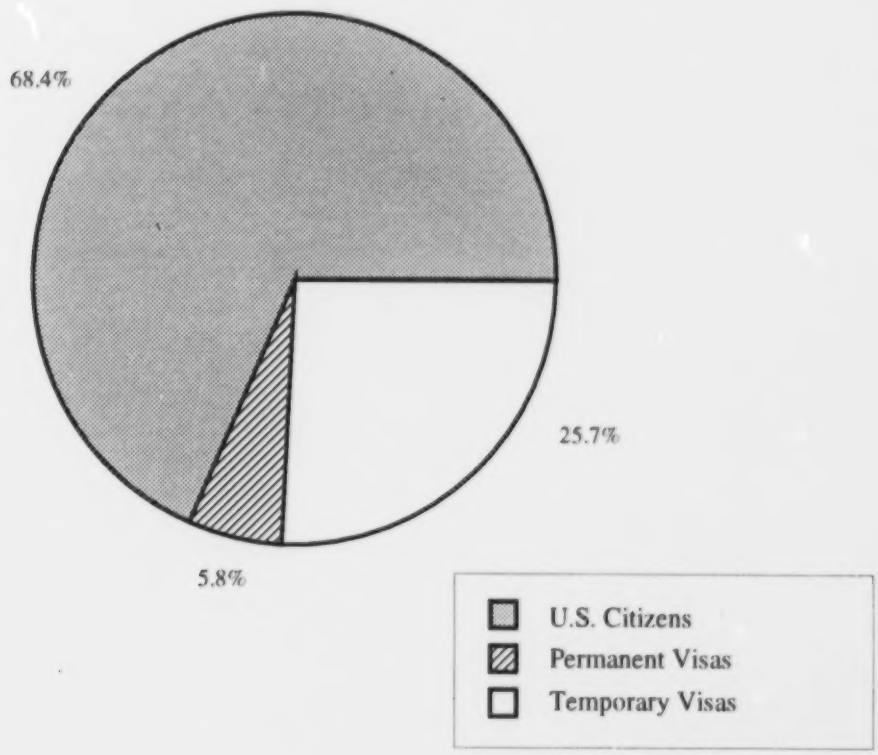
See Table 2.

SOURCE: National Research Council, Survey of Earned Doctorates.

Non-U.S. citizens earned 32 percent of all doctorates awarded in 1993. Their representation varied by field–accounting for 59 percent of Ph.D.s in engineering, 45 percent in physical sciences, and just 11 percent in education. U.S. citizens received more than three-quarters of the doctorates awarded in social sciences, humanities, and education.

- Among non-U.S. citizens, both permanent and temporary residents were most concentrated in engineering, followed by physical sciences and life sciences. U.S. citizens were most heavily concentrated in education, although they were highly represented in the fields of social and life sciences as well.

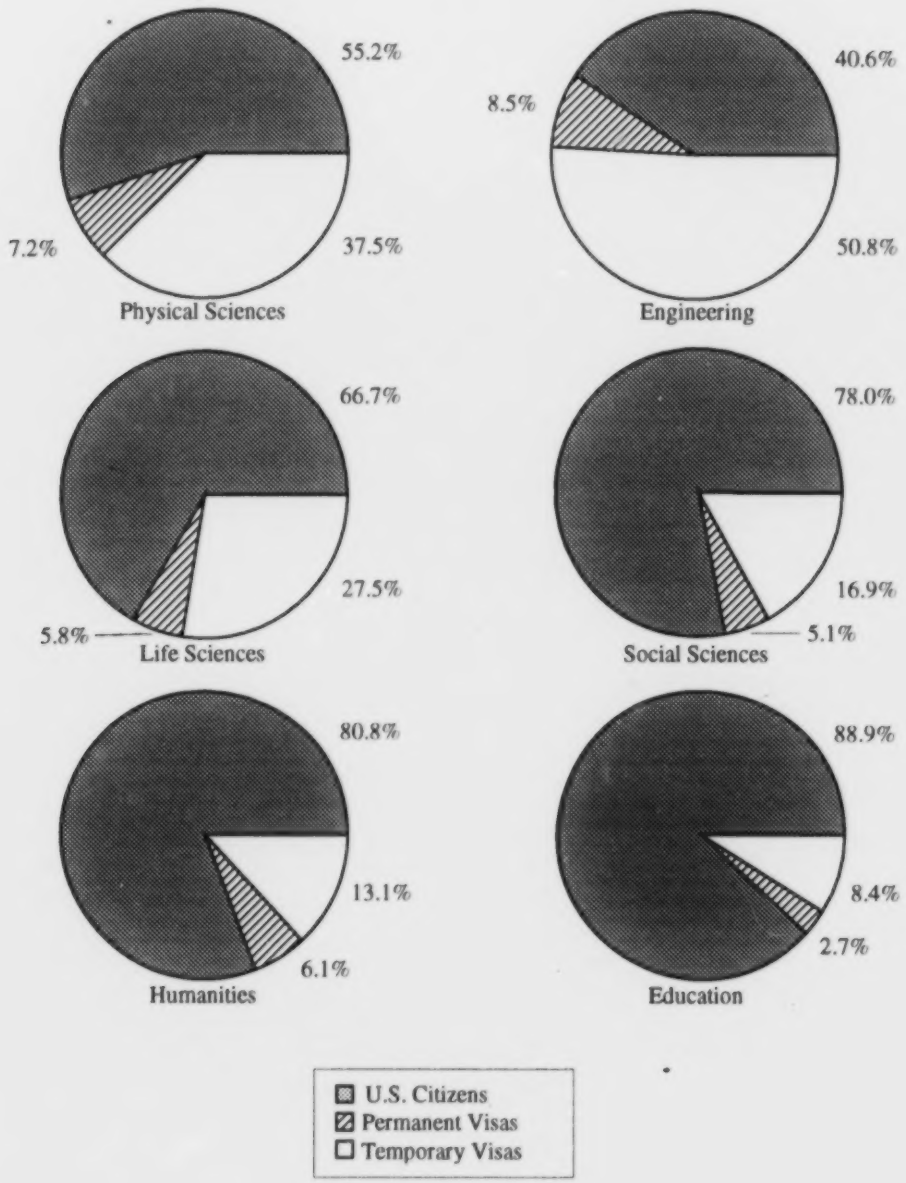
FIGURE 6a Citizenship status of doctorate recipients in all fields, 1993.



See Table 3.
See technical notes in Appendix C for rates of nonresponse to the question on citizenship status.

SOURCE: National Research Council, Survey of Earned Doctorates.

FIGURE 6b Broad field composition, by citizenship status of doctorate recipients, 1993.



See Table 3.
See technical notes in Appendix C for rates of nonresponse to the question on citizenship status.

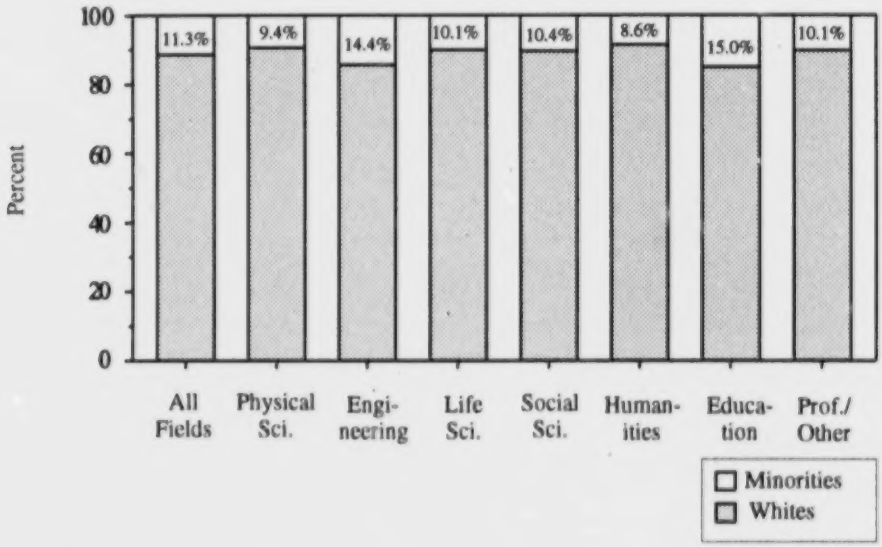
SOURCE: National Research Council, Survey of Earned Doctorates.

Racial/ethnic minorities received 11 percent of all doctorates awarded to U.S. citizens in 1993. As a group, they accounted for 15 percent of the doctorates in education, 14 percent in engineering, and 9 to 10 percent in each of the other broad fields.

- In 1993, black, Hispanic, and Native American doctorate recipients were most concentrated in the field of education, followed by social sciences. Life sciences and engineering were the leading fields among Asian Americans. (See Table 5.)

- In 1993, black Americans received more than one-half of the doctorates awarded to minorities in the field of education and professional/other fields; blacks were also the predominant minority recipients of doctorates in the field of social sciences. Asian Americans accounted for well over one-half of minority Ph.D.s in engineering and physical sciences and also earned more doctorates in life sciences than any other minority group. Hispanics were the predominant minority group to receive doctorates in the field of humanities. (See Table 5.)

FIGURE 7 Broad field composition, by minority status of doctorate recipients, 1993.



NOTE: Percentages designate the nonwhite minority representation among U.S. citizens in each field.

See Table 5.
See technical notes in Appendix C for rates of nonresponse to the question on race/ethnicity.

SOURCE: National Research Council, Survey of Earned Doctorates.

Time-to-Degree

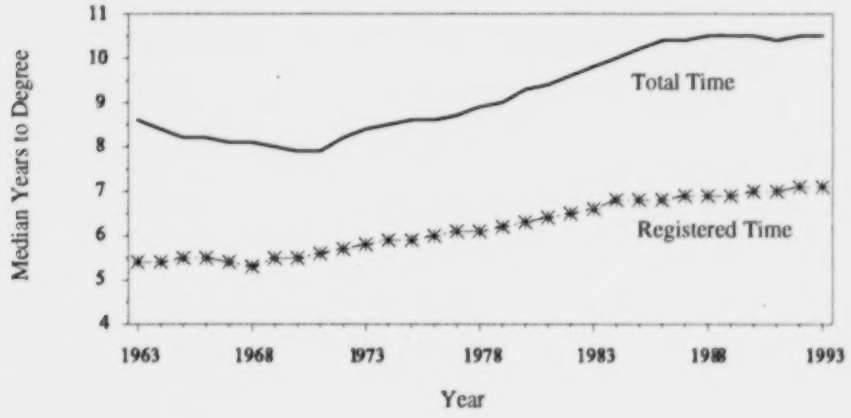
Total time-to-degree (TTD) measures the number of years elapsed between receipt of the baccalaureate and the Ph.D. Registered time-to-degree (RTD) gauges the amount of time actually enrolled in graduate school; RTD includes master's degrees, enrollment in nondegree programs, and time spent working on the dissertation.

- TTD has remained fairly level since the mid-1980s, while RTD has increased at a slow but steady pace. The median TTD in 1993 was 10.5 years, and the median RTD was 7.1 years.

- Both TTD and RTD varied considerably by field. In 1993, doctorate recipients in physical sciences had the shortest TTD (8.3 median years), while those in education had the longest (19.2 median years). The shortest RTD was in engineering (6.3 median years), and the longest RTD was in the humanities (8.3 median years).

- Time-to-degree was shorter for men than for women, though differences in RTD almost disappear for Ph.D.s in the same broad field. Temporary residents exhibited shorter time-to-degree than both permanent residents and U.S. citizens, and Asian Americans had the shortest time-to-degree of all U.S. racial/ethnic groups. (See Table 10.)

FIGURE 8 Median years to doctorate from baccalaureate award, 1963-1993.

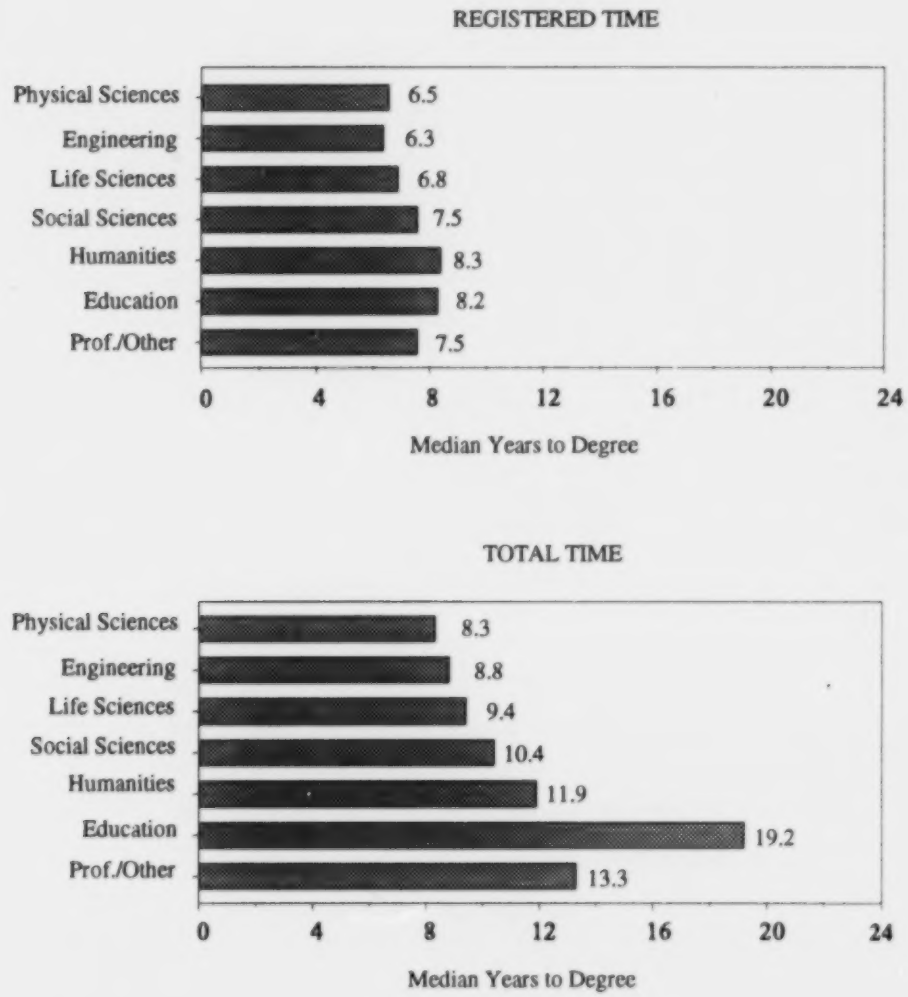


NOTE: A different method of computing TTD using baccalaureate-year cohorts rather than doctorate-year cohorts is discussed in Bowen, W., G. Lord, and J. A. Sosa. 1991. Measuring Time to the Doctorate: A Reinterpretation of the Evidence. *Proceedings of the National Academy of Sciences*, Vol. 88. Washington, D.C. Pp. 713-717.

See Tables 9 and 10.
See technical notes in Appendix C for rates of nonresponse to the applicable questions.

SOURCE: National Research Council, Survey of Earned Doctorates.

FIGURE 9 Median years to doctorate from baccalaureate award, by broad field, 1993.



NOTE: A different method of computing TTD using baccalaureate-year cohorts rather than doctorate-year cohorts is discussed in Bowen, W., G. Lord, and J. A. Sosa. 1991. Measuring Time to the Doctorate: A Reinterpretation of the Evidence. *Proceedings of the National Academy of Sciences*, Vol. 88. Washington, D.C. Pp. 713-717.

See Tables 9 and 10.
See technical notes in Appendix C for rates of nonresponse to the applicable questions.

SOURCE: National Research Council, Survey of Earned Doctorates.

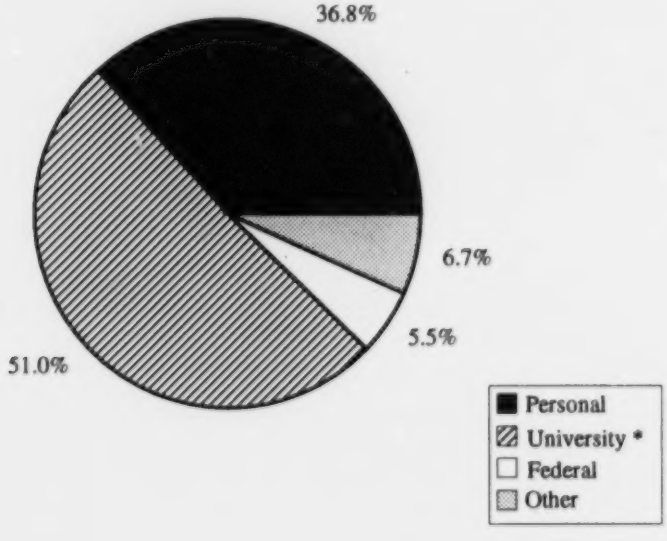
Financial Support

As in the previous two years, university funding (mostly via teaching and research assistantships) was the primary source of graduate school support for the majority of 1993 Ph.D.s (51 percent). Another 37 percent were primarily supported by personal resources (own earnings; family contributions; loans) and the remaining 12 percent by "other" resources (federal or state governments; nonfederal competitive fellowships; businesses/employers).

- The type of primary support varied greatly by field. University sources were most common in the physical and life sciences and in engineering (reported by well over half of recipients). Personal resources were most typical in education (reported by 80 percent of recipients).

- Male Ph.D. recipients were primarily supported by their university; female recipients were more likely to be self-supporting. Over two-thirds of non-U.S. citizens reported university support as their primary source of financing, whereas U.S. citizens were somewhat more apt to be supported by their own resources. The largest proportion of Ph.D.s in most U.S. racial/ethnic groups also indicated personal funds as their primary source of financial support; however, university funding was the chief means of support for more than half of Asian Americans. These differences were due in part to the field concentrations of the various demographic groups. (See Table 11.)

FIGURE 10a Primary sources of financial support for doctorate recipients in all fields, 1993.

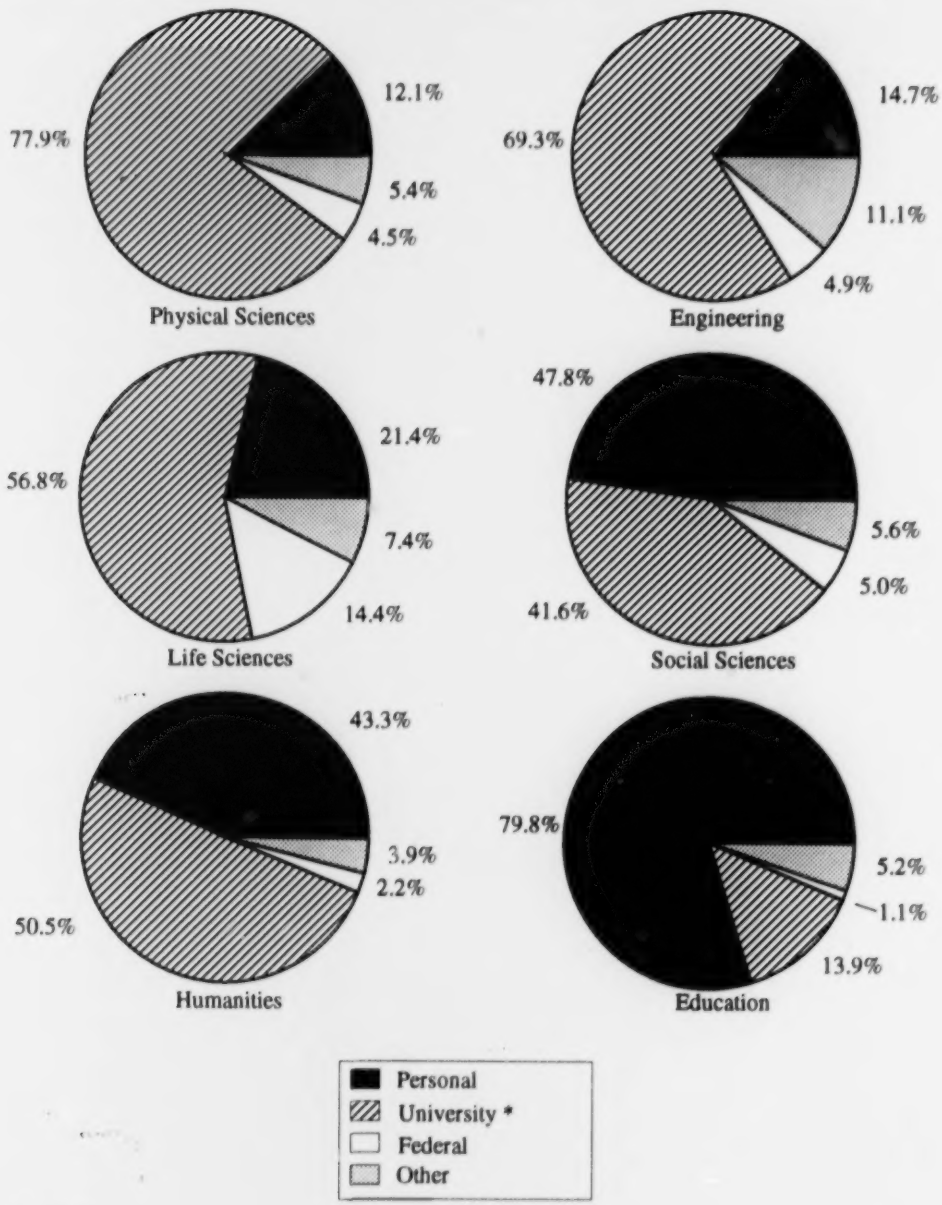


See Table 11.
See technical notes in Appendix C for rates of nonresponse to this question.

*University support also includes research assistantships funded by the federal government.

SOURCE: National Research Council, Survey of Earned Doctorates.

FIGURE 10b Primary sources of financial support for doctorate recipients, by broad field, 1993.



See Table 11.
See technical notes in Appendix C for rates of nonresponse to this question.

*University support also includes research assistantships funded by the federal government.

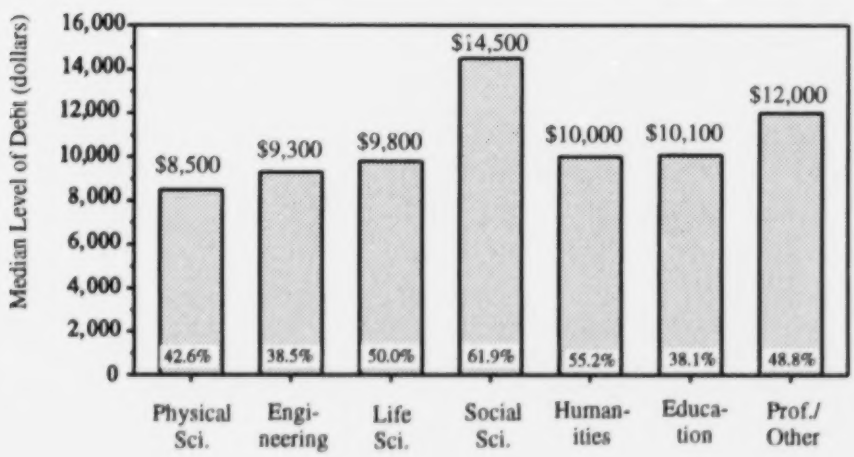
SOURCE: National Research Council, Survey of Earned Doctorates.

Almost half (48 percent) of all Ph.D.s in 1993 reported debt related to their combined undergraduate and graduate education. Among those with debt, the median level of debt was $10,500.

- Doctorate recipients in social sciences were the most likely to have incurred educational debt (62 percent), while those in education and engineering were the least likely (about 38 percent in each field). Social scientists also had the highest level of debt (median $14,500); physical scientists had the lowest debt level (median $8,500).

- Men and women reported debt in equal proportions and had about the same level of debt. Non-U.S. citizens were much less likely to have incurred debt than U.S. citizens, the majority of whom were indebted. Temporary residents reported lower levels of debt than both U.S. citizens and permanent residents. Black and Hispanic Americans were the most likely of U.S. racial/ethnic groups to have educational debt, and their debt levels were the highest. (See Tables 12 and 13.)

FIGURE 11 Median level of educational debt and percentage of Ph.D.s with debt, total and by broad field, 1993.



NOTE: Ph.D.s without debt are not included in the median computations.

See Tables 12 and 13.
See technical notes in Appendix C for rates of nonresponse to the question on debt.

SOURCE: National Research Council, Survey of Earned Doctorates.

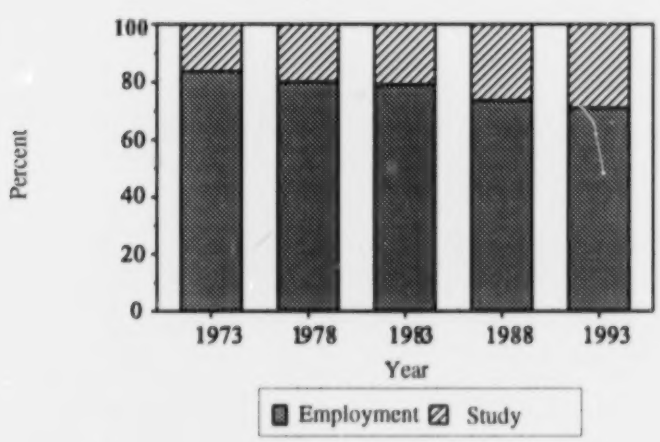
Postgraduation Plans

Of those Ph.D.s in 1993 who reported definite postgraduation commitments, 71 percent planned to be employed while 29 percent planned postdoctoral study. (Note: Postdoctoral appointments are considered to be postdoctoral study rather than employment in this report.) The proportion of new Ph.D.s with employment plans was significantly lower than 20 years ago, when 84 percent intended to work after graduation and only 16 percent planned further study.

- Doctorate recipients in education and professional/other fields were the most likely to have work plans (97 percent), followed closely by Ph.D.s in the humanities (93 percent). Study plans were by far most common in the life sciences (64 percent).

- The majority of Ph.D.s in every demographic group planned to work rather than pursue further study after graduation. However, women were more inclined towards employment than were men, and U.S. citizens were more apt to work than were foreign citizens. A significant proportion of temporary residents (39 percent) planned to continue their education. Among the aggregate of U.S. citizens and permanent residents, Native Americans and blacks had the largest proportions with work plans (about 85 percent each), and Asians had the largest proportion with study plans (39 percent). (See Table 15.)

FIGURE 12 Postgraduation commitments of doctorate recipients for selected years, 1973-1993.



NOTE: Only Ph.D.s with definite commitments are included. Percentages are based on the number of Ph.D.s whose specific plans are known.

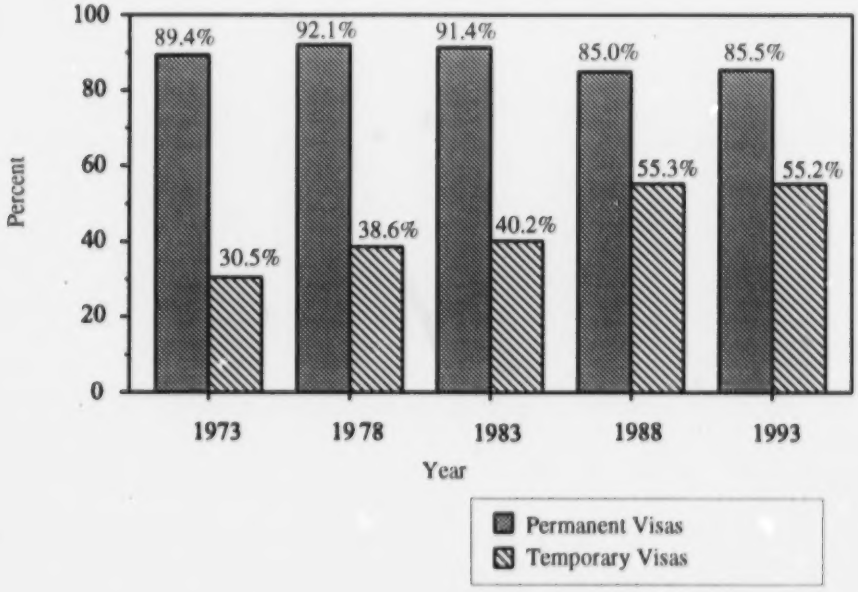
See Tables 14 and 15.
See technical notes in Appendix C for rates of nonresponse to the applicable questions and for further explanation of postgraduation plans.

SOURCE: National Research Council, Survey of Earned Doctorates.

In 1993, permanent residents who reported definite postdoctoral commitments were much more likely than temporary residents with commitments to have plans to remain in the United States (86 percent versus 55 percent). However, the proportion of temporary resident Ph.D.s intending to stay was nearly double the proportion in 1973 (31 percent). (Note: Temporary residents are allowed to extend their stay in the United States after receipt of the Ph.D. for additional study or work experience; however, they cannot remain indefinitely without a change in visa status.) Among permanent residents, the percentage of Ph.D.s with plans to stay in the United States was somewhat lower than 20 years ago.

- Postdoctoral study was planned by over half of the temporary residents who intended to remain in the United States, while permanent residents were nearly twice as apt to work as to study. (See Table 17.)

FIGURE 13 Percentage of non-U.S. citizen doctorate recipients with definite plans to remain in the United States after graduation, by visa status for selected years, 1973-1993.



NOTE: Only Ph.D.s with definite commitments are included in the percentage computations.

See Tables 16 and 17.
See technical notes in Appendix C for rates of nonresponse to the applicable questions.

SOURCE: National Research Council, Survey of Earned Doctorates.

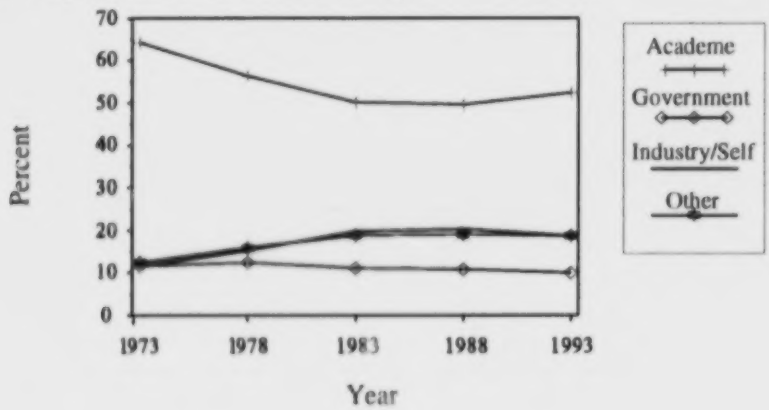
In 1993 as in earlier years, academe was the primary employer of U.S. citizens and permanent residents who had definite commitments for employment in the United States after graduation. However, the proportion of Ph.D.s planning to work in academe was smaller than 20 years ago (53 percent in 1993 versus 64 percent in 1973).

- Plans for employment in industry (including self-employment) increased over the last two decades, from 12 percent of Ph.D.s in 1973 to 19 percent of Ph.D.s in 1993. "Other" employment sectors (namely K-12 schools and nonprofit organizations) attracted the same proportion of Ph.D.s as industry in 1993.

- The sector of planned employment varied by field. In 1993, academic employment plans were most common among Ph.D.s in the humanities (85 percent) and professional/other fields (76 percent). Industry was most frequently reported by engineers (56 percent) and physical scientists (50 percent). (See Table 18.)

- Whereas academic employment plans were more prevalent among women than men (58 percent versus 48 percent), the proportion of men in industry (24 percent) was twice that of women. The majority of Ph.D.s in every racial/ethnic group but Asians reported plans to work in academe. While Asians also favored academic employment (44 percent), their proportion in industry (41 percent) was nearly as large. Note that the sectors of concentration for the various demographic groups reflect the doctoral fields of the Ph.D.s. in these groups. (See Table 19.)

FIGURE 14 Employment sector of doctorate recipients with postgraduation commitments in the United States for selected years, 1973-1993 (U.S. citizens and permanent residents).



NOTE: Only Ph.D.s with definite commitments for employment are included. Foreign locations are excluded. Percentages are based on the number of Ph.D.s whose employment sector is known. Government includes U.S. federal, state, and local agencies.

See Tables 18 and 19.
See technical notes in Appendix C for rates of nonresponse to this question.

SOURCE: National Research Council, Survey of Earned Doctorates.

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TABLE 1 Doctorates Awarded by U.S. Colleges and Universities, 1963-1993

Year	Number	Year	Number	Year	Number	Year	Number
1963	12,728	1971	31,867	1979	31,239	1987	32,367
1964	14,325	1972	33,041	1980	31,020	1988	33,499
1965	16,340	1973	33,755	1981	31,356	1989	34,324
1966	17,949	1974	33,047	1982	31,111	1990	36,068
1967	20,403	1975	32,952	1983	31,282	1991	37,517
1968	22,937	1976	32,946	1984	31,337	1992	38,853
1969	25,743	1977	31,716	1985	31,298	1993	39,754
1970	29,498	1978	30,875	1986	31,899		

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 2 Gender of Doctorate Recipients, by Broad Field for Selected Years, 1963-1993

Field/Gender	1963	1968	1973	1978	1983	1988	1993
All Fields	12,728	22,937	33,755	30,875	31,282	33,499	39,754
Men	11,336	20,005	27,670	22,553	20,749	21,681	24,646
Women	1,392	2,932	6,085	8,322	10,533	11,818	15,108
Physical Sciences*	2,910	4,653	5,311	4,193	4,426	5,309	6,496
Men	2,786	4,420	4,929	3,754	3,809	4,430	5,152
Women	124	233	382	439	617	879	1,344
Engineering	1,357	2,855	3,364	2,423	2,781	4,187	5,696
Men	1,347	2,843	3,318	2,370	2,657	3,901	5,175
Women	10	12	46	53	124	286	521
Life Sciences	2,083	3,707	5,168	5,041	5,554	6,165	7,397
Men	1,876	3,197	4,246	3,882	3,833	3,894	4,311
Women	207	510	922	1,159	1,721	2,271	3,086
Social Sciences	2,027	3,495	5,757	6,038	6,095	5,781	6,545
Men	1,763	2,941	4,546	4,177	3,689	3,179	3,316
Women	264	554	1,211	1,861	2,406	2,602	3,229
Humanities	1,842	3,467	5,414	4,231	3,500	3,556	4,481
Men	1,538	2,735	3,864	2,635	1,969	1,981	2,351
Women	304	732	1,550	1,596	1,531	1,575	2,130
Education	2,137	4,029	7,238	7,194	7,174	6,359	6,647
Men	1,720	3,228	5,455	4,339	3,555	2,846	2,743
Women	417	801	1,783	2,855	3,619	3,513	3,904
Professional/Other	372	731	1,503	1,755	1,752	2,142	2,492
Men	306	641	1,312	1,396	1,237	1,450	1,598
Women	66	90	191	359	515	692	894

*Includes mathematics and computer sciences.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 3 Citizenship Status of Doctorate Recipients, by Broad Field for Selected Years, 1963-1993

Field/Citizenship	1963	1968	1973	1978	1983	1988	1993
All Fields	12,728	22,937	33,755	30,875	31,282	33,499	39,754
U.S. Citizens	10,925	19,229	27,914	25,291	24,359	23,290	26,386
Permanent Residents	354	1,046	1,998	1,344	1,275	1,622	2,250
Temporary Residents	1,251	2,268	3,174	3,421	4,499	6,194	9,923
Unknown Citizenship	198	394	669	819	1,149	2,393	1,195
Physical Sciences*	2,910	4,653	5,311	4,193	4,426	5,309	6,496
U.S. Citizens	2,437	3,865	4,101	3,200	3,138	3,238	3,475
Permanent Residents	74	187	433	257	223	252	455
Temporary Residents	339	510	683	646	926	1,483	2,363
Unknown Citizenship	60	91	94	90	139	336	203
Engineering	1,357	2,855	3,364	2,423	2,781	4,187	5,696
U.S. Citizens	1,042	2,105	2,142	1,261	1,163	1,780	2,225
Permanent Residents	85	273	557	325	319	366	466
Temporary Residents	215	436	622	768	1,170	1,721	2,783
Unknown Citizenship	15	41	43	69	129	320	222
Life Sciences	2,083	3,707	5,168	5,041	5,554	6,165	7,397
U.S. Citizens	1,688	2,894	4,062	4,030	4,437	4,407	4,827
Permanent Residents	60	186	367	215	191	305	419
Temporary Residents	319	585	649	668	776	1,069	1,988
Unknown Citizenship	16	42	90	128	150	384	163
Social Sciences	2,027	3,495	5,757	6,038	6,095	5,781	6,545
U.S. Citizens	1,749	2,961	4,885	5,118	5,047	4,349	4,943
Permanent Residents	66	149	236	211	191	223	323
Temporary Residents	165	310	519	488	570	709	1,074
Unknown Citizenship	47	75	117	221	287	500	205
Humanities	1,842	3,467	5,414	4,231	3,500	3,556	4,481
U.S. Citizens	1,700	3,105	4,817	3,780	2,984	2,796	3,510
Permanent Residents	35	147	232	139	118	168	267
Temporary Residents	71	152	251	198	258	350	568
Unknown Citizenship	36	63	114	114	140	242	136
Education	2,137	4,029	7,238	7,194	7,174	6,359	6,647
U.S. Citizens	2,005	3,736	6,724	6,498	6,246	5,298	5,746
Permanent Residents	20	54	105	128	148	177	175
Temporary Residents	98	184	290	412	555	480	546
Unknown Citizenship	14	55	119	156	225	404	180
Professional/Other	372	731	1,503	1,755	1,752	2,142	2,492
U.S. Citizens	304	563	1,183	1,404	1,344	1,422	1,660
Permanent Residents	14	50	68	69	85	131	145
Temporary Residents	44	91	160	241	244	382	601
Unknown Citizenship	10	27	92	41	79	207	86

NOTE: See technical notes in Appendix C for rates of nonresponse to the question on citizenship status.

*Includes mathematics and computer sciences.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 4 Leading Countries of Origin of Non-U.S. Citizens Earning Ph.D.s at U.S. Colleges and Universities, 1993 (ranked on number of Ph.D.s)

Country	Number	Country	Number
1. People's Republic of China*	2,254	16. France	136
2. Taiwan, Republic of China*	1,452	17. Pakistan	132
3. Republic of Korea†	1,405	18. Israel	126
4. India	1,134	19. Nigeria	117
5. Canada	485	20. Indonesia	107
6. Germany	249	21. Egypt	107
7. Iran	239	22. Italy	101
8. England	224	23. Malaysia	101
9. Greece	199	24. Spain	100
10. Japan	182	25. Jordan	98
11. Brazil	180	26. Sri Lanka	97
12. Mexico	162	27. The Philippines	92
13. Turkey	157	28. Australia	91
14. Hong Kong	137	29. Saudi Arabia	83
15. Thailand	137	30. The Netherlands	69
		Top 30 Countries of Origin	*10,153*
		Total Countries Reported (145)	*12,001*

NOTE: The total number of non-U.S. citizens who earned doctorates in 1993 was 12,173; nearly all (12,001 Ph.D.s) reported their country of origin. See technical notes in Appendix C for rates of nonresponse to the questions on country of citizenship and citizenship status.

*An additional 176 Ph.D.s indicated "China" as their country of citizenship, but the specific origin could not be determined. Thus, data for these recipients were excluded from the table.
†Includes "Korea, unspecified." The Democratic People's Republic of Korea (North Korea) does not permit its citizens to study in the United States.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 5 Race/Ethnicity of U.S. Citizen Ph.D.s, by Major Doctorate Field, 1993

Field	Total Ph.D.s	Known Race/ Ethnicity	Asians	Blacks	His-panics	Native Amers.*	Whites
All Fields	26,386	26,152	891	1,106	834	119	23,202
Physical Sciences	3,475	3,432	182	41	89	11	3,109
Physics/Astronomy	810	799	45	9	22	3	720
Chemistry	1,272	1,259	76	19	45	2	1,117
Earth, Atmos., & Marine Sci.	473	469	6	3	8	4	448
Mathematics	496	488	28	5	9	1	445
Computer Sciences	424	417	27	5	5	1	379
Engineering	2,225	2,205	218	41	56	2	1,888
Life Sciences	4,827	4,782	219	122	126	14	4,301
Biological Sciences	3,445	3,406	190	63	93	7	3,053
Health Sciences	880	877	19	52	19	6	781
Agricultural Sciences	502	499	10	7	14	1	467
Social Sciences	4,943	4,906	104	205	182	19	4,396
Psychology	3,066	3,050	52	117	120	15	2,746
Anthropology	279	279	3	7	10	2	257
Economics	388	386	17	13	10	0	346
Poli. Sci. & Int'l. Relations	389	384	9	18	13	0	344
Sociology	348	341	10	23	15	0	293
Other Social Sciences	473	466	13	27	14	2	410
Humanities	3,510	3,469	60	95	130	13	3,171
History	599	592	7	17	21	1	546
Amer. & Eng. Lang. & Lit.	819	813	15	18	20	1	759
Foreign Lang. & Lit.	376	374	4	2	51	1	316
Other Humanities	1,716	1,690	34	58	38	10	1,550
Education	5,746	5,716	82	512	211	50	4,861
Teacher Education	383	382	5	35	16	4	322
Teaching Fields	742	737	7	38	27	2	663
Other Education	4,621	4,597	70	439	168	44	3,876
Professional/Other	1,660	1,642	26	90	40	10	1,476
Business & Management	764	758	14	24	13	5	702
Communications	239	237	4	15	9	4	205
Other Professional Fields	642	632	8	50	17	1	556
Other Fields	15	15	0	1	1	0	13

NOTE: See technical notes in Appendix C for rates of nonresponse to the question on race/ethnicity.

*"Native Americans" includes American Indians and Alaskan Natives.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 6 ' Leading U.S. Baccalaureate Institutions of U.S. Minority Ph.D.s, 1989-1993 (ranked on number of Ph.D.s)

Institution	Number
Asians	
Univ. of California-Berkeley	239
Univ. of Hawaii-Manoa	123
Univ. of California-Los Angeles	110
Massachusetts Inst. of Technology	98
Harvard Univ.	66
Cornell Univ.	60
Univ. of Illinois-Urbana/Champaign	57
California Inst. of Technology	53
Univ. of California-Davis	52
Univ. of Washington	50
Stanford Univ.	41
Yale Univ.	40
Univ. of Michigan	40
Univ. of California-Irvine	39
Univ. of Southern California	36
Univ. of Chicago	35
Univ. of Maryland-College Park	34
Univ. of Wisconsin-Madison	27
Northwestern Univ.	25
Princeton Univ.	24
Johns Hopkins Univ.	24
Top 21 U.S. Institutions	*1,273*
Total U.S. Institutions Reported (456)	*2,743*
Blacks	
Howard Univ.*	123
Hampton Univ.*	67
Spelman College*	67
North Carolina A & T St. Univ.*	63
Tuskegee Univ.*	60
Wayne State Univ.	57
Southern Univ. & A&M Univ.-Baton Rouge*	53
North Carolina Central Univ.*	49
South Carolina State Univ.*	48
Fisk Univ.*	46
Florida A & M Univ.*	44
Texas Southern Univ.*	44
Morgan State Univ.*	43
Tennessee State Univ.*	43
Chicago State Univ.	42
Jackson State Univ.*	42
Virginia State Univ.*	41
Univ. of the District of Columbia*	36
Univ. of Michigan	35
Univ. of Maryland-College Park	33
Clark Atlanta Univ.*	33
Top 21 U.S. Institutions	*1,069*
Total U.S. Institutions Reported (809)	*4,679*

Institution	Number
Hispanics	
Univ. of Puerto Rico-Rio Piedras	497
Univ. of Puerto Rico-Mayaguez	79
Univ. of California-Berkeley	62
Univ. of Texas-Austin	54
Univ. of New Mexico	50
Univ. of Miami	47
Univ. of California-Los Angeles	46
Catholic Univ. of Puerto Rico	40
California State Univ.-Los Angeles	35
City Univ. of NY-City College	34
Univ. of California-Santa Barbara	34
Univ. of Arizona	33
Princeton Univ.	30
Univ. of Florida	30
Inter American Univ.-San German	29
Cornell Univ.	27
New York Univ.	27
Florida International Univ.	27
Univ. of Texas-El Paso	27
Univ. of California-Irvine	26
Top 20 U.S. Institutions	*1,234*
Total U.S. Institutions Reported (632)	*3,398*
Native Americans	
Oklahoma State Univ.	16
Northeastern State Univ.	15
Univ. of Oklahoma	13
Pembroke State Univ.	9
Univ. of Central Oklahoma	9
Univ. of Montana	8
Univ. of California-Berkeley	8
Northern Arizona Univ.	7
Univ. of Arkansas-Fayetteville	6
Univ. of Colorado-Boulder	6
Univ. of Arizona	6
California State Univ.-Long Beach	6
Univ. of California-Los Angeles	6
Univ. of California-Santa Barbara	6
Syracuse Univ.	5
Univ. of Michigan	5
Western Washington Univ.	5
Top 17 U.S. Institutions	*136*
Total U.S. Institutions Reported (331)	*587*

Note: Approximately 1,850 U.S. institutions awarded baccalaureate degrees to Ph.D. recipients from 1989 to 1993.

NOTE: See technical notes in Appendix C for total numbers of U.S. minority Ph.D.s in this period, numbers reporting foreign institutions, and nonresponse rates to baccalaureate institution, citizenship, and race/ethnicity.

*This institution is one of the "Historically Black Colleges and Universities" (HBCUs) that were founded in the late 1800s and early 1900s during legal segregation for the specific purpose of educating blacks. There are currently 103 HBCUs, 90 of which award baccalaureates.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 7 Leading Ph.D. Institutions of U.S. Minority Ph.D.s, 1989-1993 (ranked on number of Ph.D.s)

Institution	Number	Institution	Number
Asians		Hispanics	
Univ. of California-Berkeley	201	Univ. of Texas-Austin	112
Univ. of California-Los Angeles	185	Univ. of California-Los Angeles	103
Stanford Univ.	151	Univ. of Puerto Rico-Rio Piedras	103
Univ. of Southern California	103	Univ. of California-Berkeley	97
Univ. of Illinois-Urbana/Champaign	101	Texas A & M Univ.	87
Massachusetts Inst. of Technology	81	Univ. of Massachusetts-Amherst	83
Harvard Univ.	79	New York Univ.	68
Univ. of Hawaii-Manoa	74	Univ. of Michigan	66
Univ. of Washington	69	Harvard Univ.	63
Univ. of Michigan	63	Univ. of Southern California	62
Cornell Univ.	60	Univ. of Wisconsin-Madison	58
Univ. of California-Davis	58	CUNY-Grad. School & Univ. Center	57
Univ. of Maryland-College Park	50	Univ. of Miami	55
Northwestern Univ.	49	Univ. of New Mexico	55
Univ. of Minnesota-Minneapolis	49	Stanford Univ.	54
Univ. of Pennsylvania	48	Fordham Univ.	52
Purdue Univ.	48	Penn State Univ.	51
Univ. of Texas-Austin	48	Columbia Teachers College	47
Univ. of California-Irvine	48	Cornell Univ.	46
Univ. of California-San Diego	48	Univ. of Arizona	45
Top 20 Institutions	*1,613*	*Top 20 Institutions*	*1,364*
Total Institutions Reported (277)	*3,781*	*Total Institutions Reported (268)*	*3,645*
Blacks		Native Americans	
Howard Univ.*	164	Oklahoma State Univ.	23
Clark Atlanta Univ.*	156	Univ. of Oklahoma	18
Nova Univ.	139	Penn State Univ.	13
Columbia Teachers College	130	Northern Arizona Univ.	13
Univ. of Maryland-College Park	121	Indiana Univ.-Bloomington	10
Ohio State Univ.	108	Univ. of Wisconsin-Madison	10
Wayne State Univ.	94	Univ. of California-Berkeley	10
Univ. of Massachusetts-Amherst	86	Stanford Univ.	10
Temple Univ.	79	Univ. of Illinois-Urbana/Champaign	9
Univ. of Michigan	77	Univ. of North Carolina-Chapel Hill	9
Univ. of Pittsburgh	73	Univ. of Washington	9
Florida State Univ.	71	Univ. of South Dakota	8
Univ. of North Carolina-Chapel Hill	69	North Carolina State Univ.-Raleigh	8
Texas Southern Univ.*	67	Univ. of Texas-Austin	8
George Washington Univ.	60	Arizona State Univ.	8
Univ. of California-Berkeley	57	Univ. of Oregon	8
Univ. of South Carolina	54	Univ. of California-Los Angeles	8
Michigan State Univ.	53		
Univ. of Texas-Austin	53	*Top 17 Institutions*	*182*
Harvard Univ.	52	*Total Institutions Reported (189)*	*588*
Univ. of Florida	52		
Top 21 Institutions	*1,815*	*Note: 377 institutions awarded doctorates*	
Total Institutions Reported (268)	*4,789*	*between 1989 and 1993.*	

NOTE: See technical notes in Appendix C for nonresponse rates to citizenship and race/ethnicity.

*This institution is one of the "Historically Black Colleges and Universities" (HBCUs) that were founded in the late 1800s and early 1900s during legal segregation for the specific purpose of educating blacks. There are currently 103 HBCUs, 11 of which award doctorates.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 8 Major Doctorate Field for Selected Years, 1963-1993

Field	1963	1968	1973	1978	1983	1988	1993
All Fields	12,728	22,937	33,755	30,875	31,282	33,499	39,754
Physical Sciences	2,910	4,653	5,311	4,193	4,426	5,309	6,496
Physics/Astronomy	817	1,436	1,589	1,067	1,043	1,302	1,543
Chemistry	1,288	1,803	1,855	1,544	1,759	2,015	2,139
Earth, Atmos., & Marine Sci.	322	443	634	623	637	728	790
Mathematics	483	971	1,232	838	701	749	1,146
Computer Sciences*	N/A	N/A	1	121	286	515	878
Engineering	1,357	2,855	3,364	2,423	2,781	4,187	5,696
Life Sciences	2,083	3,707	5,168	5,041	5,554	6,165	7,397
Biological Sciences	1,510	2,827	3,648	3,516	3,741	4,112	5,090
Health Sciences	107	196	486	512	640	882	1,201
Agricultural Sciences	466	684	1,034	1,013	1,173	1,171	1,106
Social Sciences	2,027	3,495	5,757	6,038	6,095	5,781	6,545
Psychology	890	1,464	2,458	3,055	3,347	3,074	3,419
Anthropology	82	138	326	399	373	325	342
Economics	450	747	942	800	813	852	930
Poli. Sci. & Int'l. Relations	290	580	908	695	473	469	609
Sociology	211	370	599	610	525	449	513
Other Social Sciences	104	196	524	479	564	612	732
Humanities	1,842	3,467	5,414	4,231	3,500	3,556	4,481
History	389	741	1,216	852	616	603	728
Amer. & Eng. Lang. & Lit.	492	930	1,414	1,025	715	717	948
Foreign Lang. & Lit.	206	526	917	637	504	430	577
Other Humanities	755	1,270	1,867	1,717	1,665	1,806	2,228
Education	2,137	4,029	7,238	7,194	7,174	6,359	6,647
Teacher Education	206	493	675	551	483	473	428
Teaching Fields	578	984	1,536	1,352	1,327	988	940
Other Education	1,353	2,552	5,027	5,291	5,364	4,898	5,279
Professional/Other	372	731	1,503	1,755	1,752	2,142	2,492
Business & Management	224	440	785	713	750	1,033	1,280
Communications	13	49	199	292	250	247	322
Other Professional Fields	123	203	446	736	730	812	863
Other Fields	12	39	73	14	22	50	27

*"Computer sciences" first appeared on the survey form in 1978. However, the number shown for 1978 may be lower than the actual number in the field because some Ph.D.s filled out questionnaires from earlier years. The single count in 1973 represents a late receipt of data on a survey form that included the computer science field.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 9 Median Years to Doctorate from Baccalaureate Award, by Broad Field for Selected Years, 1963-1993

Field	1963	1968	1973	1978	1983	1988	1993
All Fields							
Registered	5.4	5.3	5.8	6.1	6.6	6.9	7.1
Total	8.6	8.1	8.4	8.9	9.8	10.5	10.5
Physical Sciences*							
Registered	5.1	5.1	5.7	5.8	6.0	6.2	6.5
Total	6.3	6.0	6.8	7.0	7.1	7.4	8.3
Engineering							
Registered	5.1	5.1	5.6	5.6	5.7	5.9	6.3
Total	6.9	7.1	7.7	7.5	8.0	8.1	8.8
Life Sciences							
Registered	5.3	5.3	5.5	5.7	6.1	6.5	6.8
Total	7.6	7.1	7.2	7.3	7.9	8.9	9.4
Social Sciences							
Registered	5.4	5.1	5.7	6.0	6.8	7.4	7.5
Total	8.5	7.7	7.6	8.1	9.4	10.5	10.4
Humanities							
Registered	5.9	5.5	6.4	7.3	8.0	8.5	8.3
Total	10.2	9.5	9.2	10.2	11.1	12.1	11.9
Education							
Registered	6.7	5.8	6.1	6.5	7.4	8.1	8.2
Total	13.2	13.9	12.5	12.7	14.1	16.8	19.2
Professional/Other							
Registered	5.4	5.1	5.9	6.2	6.9	7.3	7.5
Total	11.4	10.9	10.0	10.7	12.0	13.0	13.3

NOTE: Medians are based on the number of individuals who provided complete information about their postbaccalaureate education. "Registered" time-to-degree gauges the amount of time actually enrolled in graduate school, including master's degrees and enrollment in nondegree programs. "Total" time-to-degree measures the number of years elapsed between receipt of the baccalaureate and the Ph.D. See technical notes in Appendix C for rates of nonresponse to the applicable questions.

*Includes mathematics and computer sciences.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 10 Median Years to Doctorate from Baccalaureate Award, by Demographic Group and Broad Field, 1993

	All Fields	Physical Sci.*	Eng.	Life Sci.	Social Sci.	Human-ities	Educa-tion	Prof./ Other
Registered Time from Baccalaureate								
All Ph.D.s	7.1	6.5	6.3	6.8	7.5	8.3	8.2	7.5
Men	6.9	6.5	6.3	6.8	7.4	8.2	8.1	7.4
Women	7.5	6.5	6.4	6.9	7.5	8.4	8.2	7.7
U.S. Citizens	7.3	6.3	6.3	6.9	7.4	8.4	8.4	7.8
Permanent Residents	7.4	7.3	6.8	7.0	8.3	8.2	7.1	7.5
Temporary Residents	6.6	6.8	6.2	6.6	7.3	7.5	6.3	6.8
U.S. Citizens								
Asians	6.8	6.2	6.6	6.5	7.4	7.7	9.6	7.5
Blacks	7.9	6.9	6.6	7.4	7.8	7.8	8.4	7.5
Hispanics	7.7	6.1	6.1	7.2	7.7	8.4	8.7	7.3
Native Americans	6.8	6.2	†	6.4	8.5	10.0	6.4	6.5
Whites	7.3	6.3	6.2	6.9	7.4	8.4	8.4	7.9
Total Time from Baccalaureate								
All Ph.D.s	10.5	8.3	8.8	9.4	10.4	11.9	19.2	13.3
Men	9.9	8.3	8.9	9.2	10.3	11.7	18.4	12.4
Women	12.2	8.1	8.0	9.7	10.7	12.0	19.7	15.2
U.S. Citizens	11.5	7.4	8.1	9.0	10.5	12.3	19.9	15.5
Permanent Residents	10.3	10.0	9.7	9.9	11.2	10.9	13.5	11.7
Temporary Residents	9.7	9.2	9.2	9.9	10.0	10.4	12.4	10.5
U.S. Citizens								
Asians	8.4	6.6	8.4	7.4	9.2	10.8	20.4	12.0
Blacks	16.5	8.4	8.6	12.4	12.6	14.0	20.0	17.4
Hispanics	12.0	8.0	7.4	9.1	10.8	12.9	18.7	15.5
Native Americans	13.9	10.0	†	8.5	10.7	13.3	19.0	10.5
Whites	11.4	7.4	8.0	9.0	10.5	12.2	19.9	15.5

NOTE: Medians are based on the number of individuals who provided complete information about their postbaccalaureate education. "Registered time" gauges the amount of time actually enrolled in graduate school, including master's degrees and enrollment in nondegree programs. "Total time" measures the number of years elapsed between receipt of the baccalaureate and the Ph.D. See technical notes in Appendix C for rates of nonresponse to the applicable questions.

*Includes mathematics and computer sciences.

†A median was not computed because there were fewer than five Ph.D.s with known time-to-degree.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 11 Primary Sources of Support for Doctorate Recipients, by Broad Field and Demographic Group, 1993

Primary Source of Support (responses only)		All Ph.D.s	Men	Women	U.S. Cits.	Perm. Res.	Temp. Res.	U.S. Citizens				
								Asians	Blacks	His-panics	Native Amers.	Whites
All Fields	N	26,260	16,227	10,033	18,433	1,345	6,452	614	676	510	77	16,455
Personal	%	36.8	29.9	48.0	46.2	26.4	12.2	25.1	58.3	46.9	62.3	46.5
University	%	51.0	56.7	41.7	42.3	65.8	72.7	56.8	25.3	38.0	19.5	42.6
Federal	%	5.5	5.4	5.8	7.2	2.0	1.6	10.6	8.4	10.2	7.8	6.9
Other	%	6.7	8.0	4.5	4.3	5.8	13.5	7.5	8.0	4.9	10.4	4.0
Physical Sciences*	N	4,385	3,469	916	2,603	289	1,489	126	27	56	6	2,366
Personal	%	12.1	12.0	12.7	16.5	11.4	4.6	9.5	11.1	17.9	33.3	16.8
University	%	77.9	78.1	77.3	72.0	83.7	87.4	77.8	55.6	66.1	50.0	71.9
Federal	%	4.5	4.3	5.3	7.2	0.7	0.7	6.3	14.8	12.5	16.7	7.1
Other	%	5.4	5.6	4.7	4.4	4.2	7.3	6.3	18.5	3.6	0.0	4.2
Engineering	N	3,995	3,609	386	1,745	290	1,954	170	27	47	2	1,487
Personal	%	14.7	15.0	12.2	18.2	21.0	10.7	14.7	22.2	31.9	50.0	18.0
University	%	69.3	69.2	70.2	60.3	72.1	76.9	67.1	25.9	44.7	50.0	60.8
Federal	%	4.9	4.5	8.3	10.4	0.7	0.6	6.5	18.5	12.8	0.0	10.6
Other	%	11.1	11.3	9.3	11.1	6.2	11.9	11.8	33.3	10.6	0.0	10.6
Life Sciences	N	4,982	2,861	2,121	3,395	265	1,315	150	78	83	11	3,055
Personal	%	21.4	18.3	25.6	26.9	17.0	7.9	15.3	29.5	22.9	45.5	27.5
University	%	56.8	59.3	53.5	49.6	70.2	72.9	51.3	34.6	54.2	36.4	49.8
Federal	%	14.4	13.5	15.5	19.6	5.7	2.6	26.0	26.9	18.1	18.2	19.1
Other	%	7.4	8.9	5.4	3.9	7.2	16.6	7.3	9.0	4.8	0.0	3.6
Social Sciences	N	4,124	2,049	2,075	3,289	186	645	66	108	115	12	2,974
Personal	%	47.8	42.5	53.0	53.8	41.4	19.4	42.4	46.3	49.6	50.0	54.5
University	%	41.6	45.0	38.3	37.9	47.3	59.2	43.9	35.2	27.8	25.0	38.2
Federal	%	5.0	5.2	4.7	5.3	2.7	3.6	7.6	10.2	16.5	16.7	4.6
Other	%	5.6	7.2	4.0	3.1	8.6	17.8	6.1	8.3	6.1	8.3	2.7
Humanities	N	2,824	1,461	1,363	2,324	141	354	36	53	70	8	2,135
Personal	%	43.3	43.8	42.8	47.4	32.6	21.2	44.4	32.1	40.0	50.0	48.0
University	%	50.5	49.7	51.4	48.1	61.7	62.1	50.0	60.4	54.3	37.5	47.9
Federal	%	2.2	2.0	2.5	1.9	0.7	4.8	2.8	1.9	1.4	0.0	1.9
Other	%	3.9	4.5	3.2	2.5	5.0	11.9	2.8	5.7	4.3	12.5	2.2
Education	N	4,351	1,760	2,591	3,932	91	324	48	325	115	31	3,404
Personal	%	79.8	77.4	81.4	83.3	65.9	41.0	85.4	81.5	84.3	80.6	83.4
University	%	13.9	14.3	13.6	11.9	29.7	32.4	8.3	11.4	8.7	0.0	12.3
Federal	%	1.1	1.4	1.0	1.1	2.2	1.2	2.1	3.4	3.5	3.2	0.8
Other	%	5.2	6.9	4.1	3.6	2.2	25.3	4.2	3.7	3.5	16.1	3.5
Professional/Other	N	1,599	1,018	581	1,145	83	371	18	58	24	7	1,034
Personal	%	51.5	49.4	55.1	62.7	39.8	19.4	50.0	51.7	54.2	71.4	63.8
University	%	38.8	39.4	37.7	30.8	55.4	59.6	50.0	25.9	45.8	14.3	30.6
Federal	%	1.8	1.6	2.2	2.4	0.0	0.5	0.0	6.9	0.0	0.0	2.0
Other	%	7.9	9.6	5.0	4.1	4.8	20.5	0.0	15.5	0.0	14.3	3.6

NOTE: Numbers represent those Ph.D.s with known primary support; percentages are based on these numbers. Because nonresponse to "primary" source of support is much greater than for other variables and fluctuates from year to year, the reader is advised *not* to compare percentages in this table with those published in earlier reports. The overall nonresponse rate to "primary" source of support was 33.9 percent in 1993, compared to 30.4 percent in 1992 and 22.5 percent in 1991. See technical notes in Appendix C for rates of nonresponse to this question by field and demographic group.

"Personal" includes loans as well as own earnings and contributions from the spouse/family. Federally funded research assistantships (RAs) are grouped under "University" because not all recipients of such support are aware of the actual source of funding. For further definition of "Federal" support, see item 17 on the survey questionnaire in Appendix D. "Other" support includes U.S. nationally competitive fellowships, business/employer funds, foreign government, state government, and other nonspecified sources.

*Includes mathematics and computer sciences.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 12 Median Level of Debt Related to the Education of Doctorate Recipients, 1993

	All Ph.D.s	Responses to Debt Status	Percent with Debt	Median Dollars*
All Ph.D.s	39,754	36,861	47.6	10,500
Men	24,646	22,777	47.8	10,500
Women	15,108	14,084	47.4	10,600
U.S. Citizens	26,386	25,362	55.2	10,600
Permanent Residents	2,250	2,143	36.0	10,700
Temporary Residents	9,923	9,309	29.7	9,600
U.S. Citizens				
Asians	891	863	54.6	10,200
Blacks	1,106	1,033	61.7	11,800
Hispanics	834	799	65.5	12,500
Native Americans	119	112	55.4	8,000
Whites	23,202	22,415	54.6	10,600
Physical Sciences†	6,496	6,043	42.6	8,500
Engineering	5,696	5,275	38.5	9,300
Life Sciences	7,397	6,908	50.0	9,800
Social Sciences	6,545	6,020	61.9	14,500
Humanities	4,481	4,183	55.2	10,000
Education	6,647	6,142	38.1	10,100
Professional/Other	2,492	2,290	48.8	12,000

NOTE: "All Ph.D.s" includes recipients whose debt status is unknown; percentages are based on the number with "responses to debt status." See technical notes in Appendix C for rates of nonresponse to the question on debt.

*Rounded to the nearest hundred dollars. Doctorate recipients who reported "no debt" are not included.
†Includes mathematics and computer sciences.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 13 Cumulative Level of Debt Related to the Education of Doctorate Recipients, 1993

		Percent owing:						
	Number of Ph.D.s with Debt	$1 to $5,000	$5,001 to $10,000	$10,001 to $15,000	$15,001 to $20,000	$20,001 to $25,000	$25,001 to $30,000	$30,001 or More
All Ph.D.s	17,557	26.9	21.5	16.2	10.3	7.2	5.6	12.5
Men	10,877	27.1	21.3	16.5	10.1	7.2	5.2	12.6
Women	6,680	26.5	21.8	15.6	10.6	7.1	6.2	12.2
U.S. Citizens	14,002	25.7	22.1	17.2	11.0	7.6	5.7	10.8
Permanent Residents	771	25.7	22.2	15.0	9.2	7.5	5.8	14.5
Temporary Residents	2,762	33.4	17.9	11.2	6.9	5.1	5.0	20.5
U.S. Citizens								
Asians	471	22.5	26.5	19.5	10.4	8.1	3.6	9.3
Blacks	637	26.2	18.7	14.4	11.3	6.3	7.1	16.0
Hispanics	523	21.0	20.7	16.6	12.6	8.8	7.1	13.2
Native Americans	62	35.5	24.2	11.3	6.5	4.8	3.2	14.5
Whites	12,234	25.9	22.2	17.3	11.0	7.6	5.6	10.4
Physical Sciences*	2,577	31.5	26.0	18.0	8.3	5.2	3.8	7.1
Engineering	2,030	30.8	22.1	14.7	9.1	6.3	4.5	12.4
Life Sciences	3,457	27.2	23.7	18.3	9.1	6.4	4.7	10.4
Social Sciences	3,725	18.9	17.6	15.0	12.5	8.5	7.7	19.9
Humanities	2,310	27.4	22.4	16.3	11.7	7.4	5.7	9.1
Education	2,340	29.8	19.8	15.3	10.0	8.0	5.5	11.5
Professional/Other	1,118	27.3	17.3	13.3	10.6	9.0	7.2	15.3

NOTE: See technical notes in Appendix C for rates of nonresponse to the question on debt.

*Includes mathematics and computer sciences.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 14 Postgraduation Commitments of Doctorate Recipients, by Type of Plans and Broad Field for Selected Years, 1973-1993

		All Fields	Physical Sci.*	Eng.	Life Sci.	Social Sci.	Human-ities	Educa-tion	Prof./ Other
All Definite Commitments									
1973	N	24,091	3,625	2,323	3,728	4,328	3,610	5,261	1,216
1978	N	20,849	2,992	1,688	3,610	3,914	2,393	4,870	1,382
1983	N	21,187	3,150	1,850	3,914	3,869	2,068	4,978	1,358
1988	N	22,202	3,661	2,495	4,297	3,691	2,113	4,389	1,556
1993	N	24,404	3,918	2,869	5,038	3,948	2,488	4,433	1,710
Definite Commitments with Responses to Type of Plans									
1973	N	23,931	3,616	2,317	3,708	4,301	3,569	5,217	1,203
1978	N	20,682	2,979	1,679	3,586	3,885	2,368	4,813	1,372
1983	N	21,127	3,139	1,844	3,908	3,857	2,061	4,966	1,352
1988	N	21,992	3,638	2,480	4,274	3,655	2,082	4,321	1,542
1993	N	24,236	3,893	2,857	5,016	3,922	2,458	4,391	1,699
Employment									
1973	%	83.8	60.9	87.1	58.1	91.9	96.2	98.0	98.6
1978	%	80.3	60.5	84.8	47.4	87.0	95.2	97.7	98.4
1983	%	79.3	62.0	87.5	44.8	86.3	95.4	97.4	97.2
1988	%	73.6	51.4	80.2	39.4	84.2	93.1	95.6	97.5
1993	%	71.1	50.3	74.8	35.9	80.0	93.1	97.1	97.2
Study									
1973	%	16.2	39.1	12.9	41.9	8.1	3.8	2.0	1.4
1978	%	19.7	39.5	15.2	52.6	13.0	4.8	2.3	1.6
1983	%	20.7	38.0	12.5	55.2	13.7	4.6	2.6	2.8
1988	%	26.4	48.6	19.8	60.6	15.8	6.9	4.4	2.5
1993	%	28.9	49.7	25.2	64.1	20.0	6.9	2.9	2.8

NOTE: Only Ph.D.s with definite commitments are included. "All definite commitments" includes recipients who reported definite commitments but not type of plans (employment or study). Percentages are based on the number of Ph.D.s with "responses to type of plans." See technical notes in Appendix C for rates of nonresponse to the applicable questions and for further explanation of postgraduation plans.

*Includes mathematics and computer sciences.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 15 Postgraduation Commitments of Doctorate Recipients, by Type of Plans and Demographic Group for Selected Years, 1973-1993

								U.S. Citizens & Permanent Residents*				
		All Ph.D.s	Men	Women	U.S. Cits.	Perm. Res.	Temp. Res.	Asians	Blacks	His-panics	Native Amers.	Whites
All Definite Commitments												
1973	N	24,091	20,282	3,809	20,798	1,131	2,113	N/A	N/A	N/A	N/A	N/A
1978	N	20,849	15,750	5,099	17,772	781	2,265	625	712	367	41	15,981
1983	N	21,187	14,399	6,788	17,496	759	2,885	647	668	420	45	16,192
1988	N	22,202	14,464	7,738	17,326	913	3,925	772	642	487	64	15,982
1993	N	24,404	14,878	9,526	18,006	1,099	5,273	1,089	766	624	75	16,459
Definite Commitments with Responses to Type of Plans												
1973	N	23,931	20,154	3,777	20,670	1,120	2,095	N/A	N/A	N/A	N/A	N/A
1978	N	20,682	15,638	5,044	17,656	773	2,225	616	699	366	41	15,890
1983	N	21,127	14,358	6,769	17,459	758	2,863	644	665	419	45	16,166
1988	N	21,992	14,335	7,657	17,182	899	3,874	762	634	479	63	15,855
1993	N	24,236	14,788	9,448	17,903	1,084	5,223	1,079	758	621	75	16,363
Employment												
1973	%	83.8	83.6	85.1	85.4	68.1	76.4	N/A	N/A	N/A	N/A	N/A
1978	%	80.3	79.2	83.7	81.0	78.3	75.8	71.3	94.0	89.3	90.2	80.7
1983	%	79.3	77.9	82.2	79.6	80.1	77.2	73.6	92.3	86.6	97.8	79.2
1988	%	73.6	71.8	77.2	75.8	72.0	64.7	70.3	87.9	73.7	82.5	75.5
1993	%	71.1	68.5	75.3	74.4	66.1	60.9	60.9	83.8	74.2	85.3	74.3
Study												
1973	%	16.2	16.4	14.9	14.6	31.9	23.6	N/A	N/A	N/A	N/A	N/A
1978	%	19.7	20.8	16.3	19.0	21.7	24.2	28.7	6.0	10.7	9.8	19.3
1983	%	20.7	22.1	17.8	20.4	19.9	22.8	26.4	7.7	12.1	26.3	17.5	24.5
1988	%	26.4	28.2	22.8	24.2	28.0	35.3	29.7	12.1	26.3	17.5	24.5
1993	%	28.9	31.5	24.7	25.6	33.9	39.1	39.1	16.2	25.8	14.7	25.7

NOTE: Only Ph.D.s with definite commitments are included. "All definite commitments" includes recipients who reported definite commitments but not type of plans (employment or study). Percentages are based on the number of Ph.D.s with "responses to type of plans." See technical notes in Appendix C for rates of nonresponse to the applicable questions and for further explanation of postgraduation plans.

*Race/ethnicity was not available in 1973.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 16 Postdoctoral Location of Non-U.S. Citizen Doctorate Recipients with Postgraduation Commitments, by Visa Status for Selected Years, 1973-1993

		All Non-U.S. Citizens	Permanent Residents	Temporary Residents
All Definite Commitments				
1973	N	3,244	1,131	2,113
1978	N	3,046	781	2,265
1983	N	3,644	759	2,885
1988	N	4,838	913	3,925
1993	N	6,372	1,099	5,273
Definite Commitments with Responses to Location				
1973	N	3,140	1,081	2,059
1978	N	2,892	744	2,148
1983	N	3,376	697	2,679
1988	N	4,372	834	3,538
1993	N	6,294	1,094	5,200
U.S. Location				
1973	%	50.8	89.4	30.5
1978	%	52.4	92.1	38.6
1983	%	50.7	91.4	40.2
1988	%	61.0	85.0	55.3
1993	%	60.5	85.5	55.2
Foreign Location				
1973	%	49.2	10.6	69.5
1978	%	47.6	7.9	61.4
1983	%	49.3	8.6	59.8
1988	%	39.0	15.0	44.7
1993	%	39.5	14.5	44.8

NOTE: Only non-U.S. citizen Ph.D.s with definite commitments are included. "All definite commitments" includes recipients who reported definite commitments but not location (U.S. or foreign). Percentages are based on the number with "responses to location." See technical notes in Appendix C for rates of nonresponse to the applicable questions and for further explanation of postgraduation plans.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 17 Postdoctoral Location of Non-U.S. Citizen Doctorate Recipients with Postgraduation Commitments, by Major Field and Visa Status, 1993

Field of Doctorate (responses only)	Postdoctoral Location: Permanent Visas — Resp. to Location/ Type of Plans (N)	U.S. Location Empl. (%)	U.S. Location Study (%)	Foreign Location Empl. (%)	Foreign Location Study (%)	Postdoctoral Location: Temporary Visas — Resp. to Location/ Type of Plans (N)	U.S. Location Empl. (%)	U.S. Location Study (%)	Foreign Location Empl. (%)	Foreign Location Study (%)
All Fields	1,080	55.0	30.5	11.1	3.4	5,154	25.7	29.5	35.5	9.2
Physical Sciences	220	55.0	34.1	5.9	5.0	1,267	25.0	41.5	19.8	13.7
Physics/Astronomy	45	31.1	55.6	0.0	13.3	297	10.8	61.6	7.7	19.9
Chemistry	55	43.6	45.5	3.6	7.3	379	15.8	60.7	11.3	12.1
Earth, Atmos., Marine	22	36.4	50.0	13.6	0.0	124	15.3	33.9	36.3	14.5
Mathematics	46	73.9	15.2	10.9	0.0	260	39.6	20.8	26.5	13.1
Computer Sciences	52	78.8	13.5	5.8	1.9	207	49.8	8.2	34.3	7.7
Engineering	193	63.7	22.8	10.9	2.6	1,207	34.1	23.3	35.8	6.9
Life Sciences	247	20.2	67.2	8.1	4.5	1,167	8.6	54.7	25.9	10.9
Biological Sciences	190	13.2	78.9	3.2	4.7	780	5.6	71.3	12.4	10.6
Health Sciences	34	52.9	20.6	26.5	0.0	123	26.8	22.8	42.3	8.1
Agricultural Sciences	23	30.4	39.1	21.7	8.7	264	8.7	20.5	58.0	12.9
Social Sciences*	147	66.7	19.0	11.6	2.7	600	30.0	7.7	56.2	6.2
Psychology	50	62.0	36.0	2.0	0.0	84	26.2	21.4	42.9	9.5
Economics	34	67.6	5.9	23.5	2.9	265	33.6	2.6	57.7	6.0
Poli. Sci./Int'l. Relat.	20	65.0	10.0	20.0	5.0	64	25.0	6.3	60.9	7.8
Sociology	16	68.8	18.8	12.5	0.0	63	33.3	3.2	58.7	4.8
Humanities	124	78.2	6.5	11.3	4.0	296	39.9	6.1	45.6	8.4
Education	64	62.5	6.3	29.7	1.6	250	15.6	2.8	73.2	8.4
Professional/Other*	85	76.5	4.7	18.8	0.0	367	43.9	1.9	51.8	2.5
Business & Mgmt.	55	85.5	1.8	12.7	0.0	259	52.1	1.2	45.9	0.8

NOTE: Only Ph.D.s with definite commitments are included; see Table 16 for numbers of non-U.S. citizens with commitments. Numbers represent those Ph.D.s who responded to both postdoctoral location and type of plans; percentages are based on these numbers. See technical notes in Appendix C for rates of nonresponse to these questions and for further explanation of postgraduation plans.

*Totals include other fields not shown.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 18 Employment Sector of Doctorate Recipients with Postgraduation Commitments in the United States, by Broad Field for Selected Years, 1973-1993 (U.S. citizens and permanent residents)

		All Fields	Physical Sci.*	Eng.	Life Sci.	Social Sci.	Human-ities	Educa-tion	Prof./ Other
All Employment Commitments									
1973	N	17,931	1,947	1,712	1,778	3,479	3,148	4,833	1,034
1978	N	14,612	1,575	1,081	1,359	2,996	2,056	4,398	1,147
1983	N	14,269	1,607	979	1,347	2,981	1,764	4,476	1,115
1988	N	13,430	1,458	1,268	1,275	2,671	1,707	3,839	1,212
1993	N	13,619	1,349	1,234	1,336	2,531	1,954	3,981	1,234
Employment Commitments with Responses to Sector									
1973	N	17,847	1,942	1,707	1,773	3,464	3,130	4,800	1,031
1978	N	14,531	1,572	1,074	1,357	2,976	2,044	4,362	1,146
1983	N	14,122	1,604	978	1,339	2,946	1,743	4,400	1,112
1988	N	13,301	1,452	1,266	1,265	2,631	1,690	3,791	1,206
1993	N	13,415	1,342	1,229	1,324	2,467	1,937	3,892	1,224
Academe†									
1973	%	64.3	49.5	24.8	63.5	69.1	92.0	59.8	80.4
1978	%	56.4	37.9	23.5	59.0	58.5	82.6	51.9	74.1
1983	%	50.2	34.0	29.3	53.0	48.8	80.0	43.8	71.0
1988	%	49.7	36.1	28.6	52.2	44.9	79.3	43.7	73.5
1993	%	52.5	37.0	24.2	51.2	49.7	85.2	45.5	75.8
Industry/Self-Employed									
1973	%	11.5	29.0	51.1	13.6	5.2	1.4	1.8	6.4
1978	%	15.3	45.2	57.1	20.4	9.6	4.9	3.4	7.0
1983	%	19.8	52.7	55.8	25.2	17.2	6.5	7.5	10.5
1988	%	20.4	50.1	55.5	23.6	19.5	5.8	7.3	8.1
1993	%	18.7	49.6	56.1	24.2	18.2	3.8	5.4	8.6
Government									
1973	%	11.6	18.6	20.0	16.6	14.4	1.7	9.4	6.4
1978	%	12.5	14.4	17.5	16.4	15.9	3.8	12.5	7.2
1983	%	11.1	11.2	13.2	15.9	15.5	3.4	10.3	6.6
1988	%	10.8	11.9	15.0	16.7	14.2	3.7	9.0	6.6
1993	%	10.0	11.1	16.8	16.3	14.4	2.0	7.7	6.1
Other‡									
1973	%	12.5	2.9	4.0	6.3	11.2	4.9	29.0	6.8
1978	%	15.9	2.4	2.0	4.3	16.0	8.7	32.2	11.8
1983	%	18.9	2.0	1.6	5.8	18.5	10.1	38.5	12.0
1988	%	19.1	1.9	0.9	7.6	21.4	11.2	39.9	11.8
1993	%	18.8	2.3	3.0	8.3	17.8	8.9	41.5	9.5

NOTE: Only Ph.D.s with definite commitments for employment are included. Foreign locations are excluded. "All employment commitments" includes recipients whose employment sector is unknown; percentages are based on the number with "responses to sector." See technical notes in Appendix C for rates of nonresponse to this question.

*Includes mathematics and computer sciences.
†Academe includes two- and four-year colleges and universities and medical schools. Elementary and secondary schools are included in "Other."
‡"Other" is mainly composed of elementary and secondary schools and nonprofit organizations.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 19 Employment Sector of Doctorate Recipients with Postgraduation Commitments in the United States, by Demographic Group for Selected Years, 1973-1993

		U.S. Citizens & Permanent Residents*										
		All Ph.D.s	Men	Women	Asians	Blacks	His-panics	Native Amers.	Whites	U.S. Cits.	Perm. Res.	Temp. Res.
All Employment Commitments												
1973	N	17,931	14,935	2,996	N/A	N/A	N/A	N/A	N/A	17,263	668	316
1978	N	14,612	10,677	3,935	419	650	319	37	12,575	14,061	551	424
1983	N	14,269	9,069	5,200	444	606	357	43	12,614	13,714	555	624
1988	N	13,430	7,988	5,442	498	544	341	49	11,808	12,871	559	924
1993	N	13,619	7,263	6,356	579	620	446	64	11,858	13,023	596	1,323
Employment Commitments with Responses to Sector												
1973	N	17,847	14,875	2,972	N/A	N/A	N/A	N/A	N/A	17,186	661	316
1978	N	14,531	10,624	3,907	413	637	313	37	12,524	13,986	545	423
1983	N	14,122	9,000	5,122	439	588	347	42	12,508	13,578	544	624
1988	N	13,301	7,930	5,371	496	534	337	49	11,700	12,747	554	924
1993	N	13,415	7,177	6,238	572	602	434	63	11,693	12,831	584	1,300
Academe†												
1973	%	64.3	62.3	74.7	N/A	N/A	N/A	N/A	N/A	64.6	57.3	66.5
1978	%	56.4	52.9	65.7	33.2	64.5	63.9	56.8	56.7	56.8	45.7	58.9
1983	%	50.2	47.4	55.2	37.6	48.6	53.6	50.0	50.6	50.4	46.0	63.5
1988	%	49.7	46.2	55.0	35.3	56.7	52.8	40.8	50.0	49.5	54.3	67.4
1993	%	52.5	47.5	58.3	44.1	57.3	59.4	57.1	52.4	52.3	57.2	53.6
Industry/Self-Employed												
1973	%	11.5	13.0	4.2	N/A	N/A	N/A	N/A	N/A	10.7	32.7	22.5
1978	%	15.3	18.1	7.4	51.6	4.9	9.6	10.8	14.6	14.2	43.3	31.7
1983	%	19.8	23.9	12.6	46.9	9.2	15.9	11.9	19.4	19.0	40.4	31.7
1988	%	20.4	25.1	13.5	45.0	9.6	16.9	12.2	19.9	19.9	32.5	28.2
1993	%	18.7	24.2	12.4	40.7	8.5	15.9	7.9	18.3	18.0	33.7	39.4
Government												
1973	%	11.6	12.4	7.8	N/A	N/A	N/A	N/A	N/A	11.9	3.9	1.9
1978	%	12.5	13.8	8.9	9.0	11.0	13.7	21.6	12.5	12.8	5.1	2.4
1983	%	11.1	12.3	8.8	8.2	13.8	12.7	11.9	11.0	11.3	4.6	2.1
1988	%	10.8	12.2	8.6	8.7	11.2	12.2	20.4	10.8	11.1	3.4	1.2
1993	%	10.0	11.5	8.2	8.0	9.5	12.2	17.5	10.0	10.3	3.6	2.2
Other‡												
1973	%	12.5	12.4	13.3	N/A	N/A	N/A	N/A	N/A	12.8	6.1	9.2
1978	%	15.9	15.1	18.1	6.3	19.6	12.8	10.8	16.2	16.3	5.9	7.1
1983	%	18.9	16.4	23.4	7.3	28.4	17.9	26.2	19.0	19.3	9.0	2.7
1988	%	19.1	16.6	22.9	11.1	22.5	18.1	26.5	19.4	19.5	9.7	3.1
1993	%	18.8	16.8	21.1	7.2	24.8	12.4	17.5	19.3	19.4	5.5	4.8

NOTE: Only doctorates with definite commitments for employment are included. Foreign locations are excluded. "All employment commitments" includes recipients whose employment sector is unknown; percentages are based on the number with "responses to sector." See technical notes in Appendix C for rates of nonresponse to this question.

*Race/ethnicity was not available in 1973.
†Academe includes two- and four-year colleges and universities and medical schools. Elementary and secondary schools are included in "Other."
‡"Other" is mainly composed of elementary and secondary schools and nonprofit organizations.

SOURCE: National Research Council, Survey of Earned Doctorates.

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APPENDIX A: The Seven Basic Tables, 1993

Appendix A includes the following seven tables:

A-1 Number of Doctorate Recipients, by Gender and Subfield, 1993
A-2 Number of Doctorate Recipients, by Citizenship, Race/Ethnicity, and Subfield, 1993
A-3 Statistical Profile of Doctorate Recipients, by Major Field, 1993
A-4 Statistical Profile of Doctorate Recipients, by Race/Ethnicity and Citizenship, 1993
A-5 Sources of Graduate School Support for Doctorate Recipients, by Broad Field and Gender, 1993
A-6 State of Doctoral Institution of Doctorate Recipients, by Broad Field and Gender, 1993
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*** IMPORTANT NOTICE ***

The estimates reported for the Survey of Earned Doctorates (SED) are simple tabulations of all available information, with no adjustment for nonresponse. Thus, differences in response rates from year to year can produce numerical fluctuations that are unrelated to true trends.

Response to the SED has been 95 to 98 percent over the years, except during the 1980s when it gradually declined to 92 percent. In an effort to improve the response rate, the survey methodology has undergone some revision in the years since 1989. Response has risen as hoped, stabilizing at 95 percent during the last three years (1991 to 1993). (Note: These percentages represent *self-report rates*, i.e., the proportion of survey forms completed by doctorate recipients. Questionnaires filled in with partial information by either the doctoral institution or staff of the National Research Council are not included in these self-report rates *but are* included in tabulations in this report.) The self-report rate for 1993 may increase somewhat in the next year if additional questionnaires are received from doctorate recipients. See page 82 in Appendix C for a table giving survey response rates from 1980 to 1993.

Item response rates have shown a parallel improvement since 1990—a natural consequence of the increase in the overall self-report rate, as well as a result of format revisions to the questionnaire and follow-ups for missing information. In 1990, new follow-up procedures were implemented, increasing coverage of several variables (birth year, gender, race/ethnicity, citizenship status, country of citizenship, baccalaureate year and institution, and postgraduation plans). Response rates for these variables have thus improved—especially for citizenship and race/ethnicity, resulting in an increase in the reported numbers of minority Ph.D.s. Postsurvey adjustment to data was greatest in 1990 and 1991, with the largest impact on the number of black Ph.D.s. For both of these years, the total number of black Ph.D.s increased by about 7.5 percent in the year after survey closure. Postsurvey adjustments were much smaller for 1992 data (a 1.4 percent increase in black Ph.D.s) because the survey cycle was extended a month to allow receipt of additional follow-up information before closure; the same is expected for 1993 data.

All adjustments to data are presented in reports subsequent to the initial report for a survey. Thus, updates for 1990 appeared in *Summary Report 1991*; those for 1991 appeared in *Summary Report 1992*; and those for 1992 are included in this year's report (see Appendix Table B-2). The data for 1993 will likewise be subject to further revision, but as for 1992, adjustments are expected to be minimal. Updates to 1993 data will be presented in next year's report.

In using SED data, the reader should keep in mind that numerical trends are affected by fluctuations in response rates. Increasing or decreasing numbers in a citizenship or racial/ethnic group reflect to some degree any upward or downward change in both overall survey response and item response.

TABLE A-1 and TABLE A-2: Tables A-1 and A-2 display data for the most recent year by subfield of doctorate. The subfields correspond to the fields on the questionnaire's Specialties List located at the back of this report. Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates (SED). See inside the back cover for a description of field groupings as reported in these tables. The "general" field categories—e.g., "chemistry, general"—include individuals who either received the doctorate in the general subject area or did not indicate a particular specialty field. The "other" field categories—e.g., "chemistry, other"—include individuals whose specified doctoral discipline was not among the specialty fields.

Table A-1 presents data by doctoral specialty and gender. Table A-2 displays doctoral specialty by citizenship and race/ethnicity. For a detailed description of the racial/ethnic variable, see the explanatory note for Table A-4. ***Refer to the notice on page 41 for important information on recent increases in response rates and their impact on time-series data.***

TABLE A-3: Table A-3 is composed of three two-page tables. The first table includes data on *all* doctorate recipients from the most recent year; the other two tables present the same data by gender. Field groupings may differ from those in reports published by federal sponsors of the SED. See inside the back cover for a description of field groupings as reported in these tables; see the questionnaire's Specialties List at the back of the report for the names and codes of the subfields included. Terms requiring definition are as follows:

- *Median Age at Doctorate*: One-half received the doctorate at or before this age. A recipient's age is obtained by subtracting the year of birth from the calendar year of doctorate. Months are not included in the computation.

- *Percentage with Master's*: The percentage of doctorate recipients in a field who received a master's degree in any field before earning the doctorate.

- *Median Time Lapse*: "Total Time" refers to the total calendar time elapsed between the year of baccalaureate and the year of doctorate; "Registered Time" refers to the actual time in attendance at colleges and universities between receipt of the baccalaureate and the doctorate. Enrollment includes years of attendance not related to a recipient's doctoral program. Months are excluded from the computations because they are rarely reported.

Postgraduation Plans: Each year's doctorate recipients provide information on postgraduation employment or study plans in response to items 20-24 on the survey form. Since the questionnaire is filled out around the time the doctorate is awarded, a recipient's plans are subject to change. However, comparisons with the longitudinal Survey of Doctorate Recipients (SDR) have shown SED data to be a reasonable indicator of actual employment status in the year following the doctorate, although results vary by sector. (The SDR, also conducted by the National Research Council, is a follow-up employment survey of a sample of doctorate recipients in science, engineering, and humanities fields.) For a comparison of the immediate postgraduation plans of Ph.D.s in the 1990 SED with their employment status

in the 1991 SDR, see the following table; refer to the footnote on page 90 in Appendix C for additional information on those Ph.D.s who reported *definite* commitments at the time they completed the SED questionnaire.

COMPARISON OF PH.D.S' IMMEDIATE POSTGRADUATION PLANS IN THE 1990 SED WITH THEIR EMPLOYMENT STATUS 1-2 YEARS LATER IN THE 1991 SDR

	Employment Status in 1991 SDR								
Plans in 1990 SED	Total	Postdoc.	Total Empl.	Acad.	Govt.	Indus./ Self	Other Empl.	Unkn. Sector	Not Empl.
Postdoctoral Study *	546	50.4	44.5	26.2	3.5	9.5	5.1	0.2	4.9
Employment	1,258	2.1	94.8	51.8	5.9	27.7	9.1	0.3	3.1
Academe	654	2.1	96.0	86.9	1.8	4.7	2.3	0.3	1.8
Government	96	2.1	94.8	16.7	47.9	13.5	16.7	0.0	3.1
Industry/Self-Employed	351	1.4	95.2	8.5	2.0	80.6	3.7	0.3	3.1
Other Sector	96	3.1	93.8	15.6	3.1	10.4	64.6	0.0	3.1
Unknown Sector	61	3.3	80.3	37.7	9.8	18.0	13.1	1.6	16.4

NOTE: SED = Survey of Earned Doctorates; SDR = Survey of Doctorate Recipients, whose sample is drawn from the SED. This table includes only 1990 Ph.D.s who were located in the United States in the 1991 SDR (total n = 1,901). The shaded percentages represent the proportions of Ph.D.s whose employment status in the 1991 SDR was consistent with their postgraduation plans in the 1990 SED. For example, the table shows that 86.9% of 1990 SED respondents who had plans for employment in academe upon graduation were still working in academe 1-2 years later, according to SDR data.

* This comparison may underestimate postdoctoral study because it is likely that some Ph.D.s who reported plans for postdoctoral study in the SED had completed their postdoctoral appointments by the time the 1991 SDR was distributed. There is a gap of 1-2 years between the Ph.D. graduation dates in the SED and the reference date for employment in the 1991 SDR.

In Table A-3, the postgraduation plans of doctorate recipients are grouped as follows: "Postdoctoral Study Plans" (fellowship, research associateship, traineeship, other), "Planned Employment After Doctorate" (educational institution, industry, etc.), and "Postdoctoral Plans Unknown." These categories include recipients who were still negotiating or seeking positions at the time of survey completion, as well as those whose plans were definite. The sum of these lines equals 100 percent for each column, with allowance for rounding: for example, 52.8 percent of all chemists had postdoctoral study plans, 39.1 percent planned to be employed, and 8.1 percent did not report their postgraduation plans, totaling 100 percent. The study and employment rows are further subdivided. The data on study plans show that 26.5 percent of all chemists planned to pursue postdoctoral fellowships; 25.1 percent, research associateships; 0.5 percent, traineeships; and 0.7 percent, some other form of postdoctoral study. These percentages sum to 52.8 percent, the proportion of chemists who reported plans

for postdoctoral study. The employment row is similarly subdivided by type of employer. The percentages for these rows add to 39.1 percent—the proportion of chemistry Ph.D.s who planned employment. The category for educational institutions includes elementary and secondary schools as well as colleges and universities, and the category for government includes military service.

The four lines of data beginning with "Definite Postdoctoral Study" distinguish between individuals who had definite postgraduation plans at the time of survey completion (item 20: "Am returning to, or continuing in, predoctoral employment" or "Have signed contract or made definite commitment") and those who were still seeking employment or postdoctoral study (item 20: "Am negotiating with one or more specific organizations," "Am seeking position but have no specific prospects," or "Other"). These four lines, when added to the prior line, "Postdoctoral Plans Unknown," total 100 percent with allowance for rounding. The two lines "Definite Postdoctoral Study" and "Seeking Postdoctoral Study" add to give the percentage for "Postdoctoral Study Plans"; the two lines "Definite Employment" and "Seeking Employment" add to give the percentage for "Planned Employment After Doctorate."

Percentages showing the distribution of doctorate recipients by postdoctoral work activity and region of employment are based only on the number of recipients who had *definite employment* commitments at the time they completed the questionnaire. These percentages exclude recipients who planned postdoctoral study (as described above) and recipients who were still *seeking* employment at the time they completed the questionnaire. (Note that the rows on specific postdoctoral study and employment plans discussed earlier include individuals whose plans were *not definite*). Revisions to the questionnaire format beginning in 1990 appear to have resulted in higher rates of nonresponse to the item on work activity in recent years. Nonresponse to this item was 15.1 percent in 1993 compared to only 6.2 percent in 1989.

The U.S. regions of employment shown in Table A-3 include the following states and territories:

New England:	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
Middle Atlantic:	New Jersey, New York, Pennsylvania
East North Central:	Illinois, Indiana, Michigan, Ohio, Wisconsin
West North Central:	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota
South Atlantic:	Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia
East South Central:	Alabama, Kentucky, Mississippi, Tennessee
West South Central:	Arkansas, Louisiana, Oklahoma, Texas
Mountain:	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming
Pacific & Insular:	Alaska, California, Hawaii, Oregon, Washington, American Samoa, Guam, Puerto Rico, Trust Territory, Virgin Islands

TABLE A-4: Table A-4 contains data by race/ethnicity and citizenship for selected variables included in Tables A-3 and A-5. Field groupings may differ from those in reports published by federal sponsors of the SED. See inside the back cover for a description of field groupings as reported in these tables; refer to the questionnaire's Specialties List at the back of the report for the names and codes of the subfields included. ***See the notice on page 41 for important information on recent increases in response rates and their impact on time-series data.***

The racial/ethnic question has undergone several revisions over the years. In 1977, it was modified to correspond to a standard question format recommended by the Federal Interagency Committee on Education and adopted by the Office of Management and Budget (OMB) for use in federally sponsored surveys; an explanation of the effect of these changes is detailed on page 13 of *Summary Report 1977*. (Note: Changes in the OMB guidelines prompted the moving of persons having origins in the Indian subcontinent from the white category to the Asian category.) In 1980, the item was further revised in two ways: (1) the Hispanic category was subdivided into Puerto Rican, Mexican American, and other Hispanic to provide more detail for users of the racial/ethnic data, and (2) respondents were asked to check only one racial category. (Before 1980, doctorate recipients could check more than one category to indicate their race.) The item was modified again in 1982 to separate the questions on race and ethnicity. Since then, respondents have been asked to first check one of the four racial group categories (American Indian, Asian, black, or white) and then indicate whether or not they are Hispanic. In Table A-4, Ph.D.s who reported Hispanic heritage, regardless of racial designation, are included in one of three Hispanic groups: Puerto Rican, Mexican American, or other Hispanic. The remaining survey respondents are then counted in the respective racial groups. (Note: Doctorate recipients who checked the category "American Indian or Alaskan Native" are identified as Native American in this report.)

In the section on "Graduate School Support," a recipient counts in more than one category if support was received from multiple sources. Because a student counts once for each of his/her sources of support, the vertical percentages sum to more than 100 percent. See the explanatory note on Appendix Table A-5 for further detail. (Data on the *primary* source of support for doctorate recipients are presented in the body of the report.)

The other sections of Table A-4 correspond to many of those in Appendix Table A-3. The reader is referred to the explanatory note on Table A-3 for additional information.

TABLE A-5: Table A-5 displays data reported in item 17 on sources of financial support received during graduate school, by broad field and gender of recipient. Field groupings may differ from those in reports published by federal sponsors of the SED. See inside the back cover for a description of field groupings as reported in this table; see the questionnaire's Specialties List at the back of the report for the names and codes of the subfields included.

A recipient counts in more than one category in Table A-5 if support was received from multiple sources. Because a student counts once for each of his/her sources of support, the vertical percentages sum to more than 100 percent. (Data on the *primary* source of support for doctorate recipients are presented in the body of the report.)

Beginning with *Summary Report 1990*, federal research assistantships (RAs) have been aggregated with university RAs and shown under "University" in this table. (Focus groups of doctoral candidates have indicated uncertainty as to the source of their RA funding; it is therefore likely that some RAs have incorrectly identified their support as university rather

than federal.) The reader is advised *not* to compare results from the 1990-1993 surveys with results from earlier years because percentages for university support appear higher and percentages for federal support appear lower in recent tables where RAs are aggregated.

The data in Table A-5 should be interpreted as follows: 160 male doctorate recipients in the physical sciences in 1993 reported financial support from federal fellowships or traineeships during graduate school. This number is 3.3 percent of the male physical sciences Ph.D.s who answered the question on sources of support, and 13.2 percent of all males in any field who reported federal fellowship or traineeship support.

TABLE A-6: Table A-6 shows, by broad field and gender, the number of persons receiving a doctorate in the most recent year from institutions in each of the 50 states, the District of Columbia, and Puerto Rico. Field groupings may differ from those in reports published by federal sponsors of the SED. See inside the back cover for a description of field groupings as reported in this table; see the questionnaire's Specialties List at the back of the report for the names and codes of the subfields included.

TABLE A-7: Table A-7 displays data by doctorate-granting institution and major field. It includes all institutions in the United States (the 50 states, the District of Columbia, and Puerto Rico) that awarded doctoral degrees in the most recent year. Field groupings may differ from those in reports published by federal sponsors of the SED and from departmental designations at institutions. See inside the back cover for a description of field groupings as reported in this table; see the questionnaire's Specialties List at the back of the report for the names and codes of the subfields included.

APPENDIX TABLE A-1 Number of Doctorate Recipients, by Gender and Subfield, 1993

Subfield of Doctorate	Number of Doctorates		
	Total	Men	Women
TOTAL ALL FIELDS	39,754	24,646	15,108
PHYSICAL SCIENCES	6,496	5,152	1,344
MATHEMATICS	1,146	882	264
Applied Mathematics	188	145	43
Algebra	84	56	28
Analysis and Functional Analysis	105	82	23
Geometry	44	37	7
Logic	19	15	4
Number Theory	42	38	4
Mathematical Statistics	228	171	57
Topology	54	45	9
Computing Theory and Practice	18	15	3
Operations Research	37	28	9
Mathematics, General	276	220	56
Mathematics, Other	51	30	21
COMPUTER SCIENCE	878	741	137
Computer Science	823	701	122
Information Sciences and Systems	55	40	15
PHYSICS AND ASTRONOMY	1,543	1,349	194
Astronomy	76	64	12
Astrophysics	69	56	13
Acoustics	27	26	1
Chemical and Atomic/Molecular	95	81	14
Elementary Particles	170	152	18
Fluids	19	17	2
Nuclear	81	73	8
Optics	96	82	14
Plasma and High-Temperature	62	58	4
Polymer	29	24	5
Solid State and Low-Temperature	335	293	42
Physics, General	340	294	46
Physics, Other	144	129	15
CHEMISTRY	2,139	1,554	585
Analytical	286	195	91
Inorganic	238	178	60
Nuclear	8	8	0
Organic	517	386	131
Medicinal/Pharmaceutical	98	60	38
Physical	337	248	89
Polymer	107	85	22
Theoretical	53	37	16
Chemistry, General	433	320	113
Chemistry, Other	62	37	25
EARTH, ATMOS., & MARINE SCI.	790	626	164
Atmospheric Physics and Chemistry	13	11	2
Atmospheric Dynamics	23	18	5
Meteorology	34	31	3
Atmos. Sci./Meteorology, General	22	15	7
Atmos. Sci./Meteorology, Other	7	6	1
Geology	197	162	35
Geochemistry	50	37	13
Geophysics and Seismology	101	87	14
Paleontology	21	16	5
Mineralogy, Petrology	9	8	1
Stratigraphy, Sedimentation	28	23	5
Geomorphology and Glacial Geology	16	13	3
Geological & Related Sci., General	15	13	2
Geological & Related Sci., Other	17	15	2
Environmental Science	68	50	18
Hydrology and Water Resources	25	16	9
Oceanography	99	72	27
Marine Sciences	27	19	8
Misc. Physical Sciences, Other	18	14	4
ENGINEERING	5,696	5,175	521
Aerospace, Aeronautic. & Astronautic.	228	220	8
Agricultural	86	80	6
Bioengineering and Biomedical	171	140	31
Ceramic Sciences	42	36	6
Chemical	624	541	83
Civil	563	518	45
Communications	22	20	2
Computer	167	152	15
Electrical, Electronics	1,353	1,246	107
Engineering Mechanics	128	117	11
Engineering Physics	21	18	3
Engineering Science	55	52	3
Environmental Health Engineering	61	52	9
Industrial/Manufacturing	236	209	27
Materials Science	416	349	67
Mechanical	901	855	46
Metallurgical	77	72	5
Mining and Mineral	24	23	1
Nuclear	108	103	5
Ocean	24	23	1
Operations Research	56	46	10
Petroleum	52	47	5
Polymer/Plastics	61	55	6
Systems	57	53	4
Engineering, General	47	44	3
Engineering, Other	116	104	12
LIFE SCIENCES	7,397	4,311	3,086
BIOLOGICAL SCIENCES	5,090	3,040	2,050
Biochemistry	845	527	318
Biophysics	103	82	21
Biotechnology Research	8	4	4
Bacteriology	14	8	6
Plant Genetics	41	29	12
Plant Pathology	41	26	15
Plant Physiology	48	29	19
Botany, Other	105	62	43
Anatomy	76	42	34
Biometrics and Biostatistics	74	53	21
Cell Biology	231	115	116
Ecology	176	110	66
Developmental Biology/Embryology	57	32	25
Endocrinology	16	4	12
Entomology	114	86	28
Biological Immunology	169	96	73
Molecular Biology	582	345	237
Microbiology	433	250	183
Neuroscience	275	165	110
Nutritional Sciences	134	35	99
Parasitology	17	10	7
Toxicology	99	57	42
Human and Animal Genetics	172	96	76
Human and Animal Pathology	130	85	45
Human and Animal Pharmacology	273	152	121
Human and Animal Physiology	271	171	100
Zoology, Other	114	82	32
Biological Sciences, General	308	192	116
Biological Sciences, Other	164	95	69
HEALTH SCIENCES	1,201	424	777
Speech-Lang. Pathology & Audiology	98	20	78
Environmental Health	38	26	12
Health Systems/Services Admin.	35	15	20
Public Health	155	61	94
Epidemiology	120	47	73
Nursing	373	15	358
Pharmacy	148	102	46
Rehabilitation/Therapeutic Services	36	16	20
Veterinary Medicine	61	45	16
Health Sciences, General	38	22	16
Health Sciences, Other	99	55	44
AGRICULTURAL SCIENCES	1,106	847	259
Agricultural Economics	137	106	31
Agricultural Business & Management	1	1	0
Animal Breeding and Genetics	18	14	4
Animal Nutrition	52	45	7
Dairy Science	11	9	2
Poultry Science	16	10	6
Fisheries Science and Management	38	34	4
Animal Sciences, Other	74	55	19
Agronomy and Crop Science	104	85	19
Plant Breeding and Genetics	68	54	14
Plant Pathology	58	43	15
Plant Sciences, Other	28	19	9
Food Engineering	9	7	2
Food Sciences, Other	140	83	57
Soil Chemistry/Microbiology	26	21	5
Soil Sciences, Other	59	55	4
Horticulture Science	62	47	15
Forest Biology	18	11	7

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A.

APPENDIX TABLE A-1 (Continued)

Subfield of Doctorate	Number of Doctorates		
	Total	Men	Women
Forest Engineering	3	3	0
Forest Management	17	17	0
Wood Sci. and Pulp/Paper Tech.	20	17	3
Conservation/Renewable Nat. Res.	13	9	4
Forestry and Related Sci., Other	55	46	9
Wildlife/Range Management	54	37	17
Agricultural Sciences, General	10	8	2
Agricultural Sciences, Other	15	11	4
SOCIAL SCIENCES (INCL. PSYCH.)	6,545	3,316	3,229
Anthropology	342	129	213
Area Studies	36	25	11
Criminology	39	24	15
Demography/Population Studies	22	10	12
Economics	906	699	207
Econometrics	24	17	7
Geography	137	97	40
International Relations/Affairs	102	74	28
Political Science and Government	507	378	129
Public Policy Analysis	98	50	48
Sociology	513	270	243
Statistics	48	34	14
Urban Affairs/Studies	123	79	44
Social Sciences, General	32	19	13
Social Sciences, Other	197	81	116
PSYCHOLOGY	3,419	1,330	2,089
Clinical	1,372	499	873
Cognitive and Psycholinguistics	104	56	48
Comparative	5	2	3
Counseling	488	204	284
Developmental and Child	202	47	155
Experimental	143	75	68
Educational	91	24	67
Industrial and Organizational	158	85	73
Personality	22	10	12
Physiological/Psychobiology	85	35	50
Psychometrics	9	7	2
Quantitative	16	5	11
School	94	29	65
Social	125	58	67
Psychology, General	308	122	186
Psychology, Other	197	72	125
HUMANITIES	4,481	2,351	2,130
History, American	269	172	97
History, European	162	102	60
History/Philosophy of Sci. & Tech.	37	21	16
History, General	117	86	31
History, Other	143	90	53
Classics	61	34	27
Comparative Literature	153	66	87
Linguistics	214	96	118
Speech and Rhetorical Studies	111	51	60
Letters, General	18	8	10
Letters, Other	37	16	21
American Studies	101	44	57
Archeology	38	20	18
Art History/Criticism/Conservation	158	51	107
Music	616	366	250
Philosophy	274	201	73
Religion	255	194	61
Drama/Theater Arts	91	54	37
LANGUAGE AND LITERATURE	1,525	631	894
American	293	135	158
English	655	262	393
French	137	50	87
German	105	40	65
Italian	19	4	15
Spanish	180	65	115
Russian	28	14	14
Slavic	13	8	5
Chinese	21	11	10
Japanese	11	7	4
Hebrew	15	11	4
Arabic	10	5	5
Other Language and Literature	38	19	19
Humanities, General	30	13	17
Humanities, Other	71	35	36

Subfield of Doctorate	Number of Doctorates		
	Total	Men	Women
EDUCATION	6,647	2,743	3,904
Curriculum and Instruction	853	290	563
Educational Admin. and Supervision	1,339	668	671
Educational Leadership	762	346	416
Educ./Instruct. Media Design	95	49	46
Educ. Stat./Research Methods	64	26	38
Educ. Assess., Test., & Meas.	23	11	12
Educational Psychology	288	93	195
School Psychology	86	32	54
Social/Phil. Found. of Educ.	108	54	54
Special Education	276	73	203
Counseling Educ./Couns. & Guidance	287	101	186
Educ. Eval. & Res./Higher Educ.	359	155	204
Pre-elementary/Early Childhood	97	12	85
Elementary Education	65	16	49
Secondary Education	33	17	16
Adult and Continuing Education	233	78	155
TEACHING FIELDS	940	430	510
Agricultural Education	54	42	12
Art Education	38	12	26
Business Education	27	12	15
English Education	53	16	37
Foreign Languages Education	48	14	34
Health Education	82	26	56
Home Economics Education	14	0	14
Technical/Industrial Arts Education	16	12	4
Mathematics Education	69	27	42
Music Education	80	36	44
Nursing Education	19	0	19
Physical Education and Coaching	161	102	59
Reading Education	95	14	81
Science Education	73	46	27
Social Science Education	9	3	6
Technical Education	21	14	7
Trade and Industrial Education	24	22	2
Teacher Ed./Spec. Acad. & Voc., Other	57	32	25
Education, General	410	168	242
Education, Other	329	124	205
PROFESSIONAL/OTHER FIELDS	2,492	1,598	894
BUSINESS AND MANAGEMENT	1,280	926	354
Accounting	183	117	66
Banking/Financial Support Services	170	139	31
Business Admin. and Management	323	239	84
Business/Managerial Economics	33	30	3
Mgmt. Info. Sys./Bus. Data Proc.	101	75	26
Marketing Management and Research	166	120	46
Operations Research	63	50	13
Organizational Behavior	73	32	41
Bus. Mgmt./Admin. Serv., General	88	65	23
Bus. Mgmt./Admin. Serv., Other	80	59	21
COMMUNICATIONS	322	164	158
Communications Research	33	16	17
Mass Communications	117	68	49
Communication Theory	41	16	25
Communications, General	69	33	36
Communications, Other	62	31	31
OTHER PROFESSIONAL FIELDS	863	488	375
Architectural Environmental Design	54	41	13
Home Economics	57	7	50
Law	29	20	9
Library Science	70	24	46
Parks/Recreation/Leisure/Fitness	44	27	17
Public Administration	116	76	40
Social Work	237	79	158
Theology/Religious Education	240	205	35
Professional Fields, General	1	0	1
Professional Fields, Other	15	9	6
OTHER FIELDS	27	20	7

SOURCE: National Research Council, Survey of Earned Doctorates.

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APPENDIX TABLE A-2 Number of Doctorate Recipients, by Citizenship, Race/Ethnicity, and Subfield, 1993

Subfield of Doctorate	Total Doctorates*	Non-U.S. Citizens Temp. Visas	U.S. Citizens and Non-U.S. with Permanent Visas								
			Total	Native Amer.	Asian	Black	White	Puerto Rican	Mexican Amer.	Other Hispanic	Unkn. Race
TOTAL, ALL FIELDS	39,754	9,923	28,636	119	2,009	1,275	23,993	238	247	487	268
PHYSICAL SCIENCES	6,496	2,363	3,930	11	442	59	3,249	21	19	77	52
MATHEMATICS	1,146	517	590	1	79	8	476	1	4	11	10
Applied Mathematics	188	92	95	0	18	3	70	0	1	2	1
Algebra	84	27	57	0	3	1	52	0	0	1	0
Analysis and Functional Analysis	105	52	53	0	6	0	44	0	1	2	0
Geometry	44	24	20	0	4	0	14	1	0	1	0
Logic	19	8	11	1	0	0	10	0	0	0	0
Number Theory	42	16	26	0	3	1	21	0	0	0	1
Mathematical Statistics	228	117	109	0	18	1	85	0	2	1	2
Topology	54	17	37	0	3	0	34	0	0	0	0
Computing Theory and Practice	18	9	9	0	0	0	9	0	0	0	0
Operations Research	37	13	24	0	2	0	21	0	0	1	0
Mathematics, General	276	125	116	0	20	2	86	0	0	2	6
Mathematics, Other	51	17	33	0	2	0	30	0	0	1	0
COMPUTER SCIENCE	878	349	508	1	77	6	410	1	1	5	7
Computer Science	823	333	471	1	73	6	379	1	1	3	7
Information Sciences and Systems	55	16	37	0	4	0	31	0	0	2	0
PHYSICS AND ASTRONOMY	1,543	583	916	3	106	9	756	3	4	21	14
Astronomy	76	17	59	0	3	1	52	0	0	1	2
Astrophysics	69	17	52	1	1	1	48	0	0	1	0
Acoustics	27	7	19	0	0	0	18	0	0	1	0
Chemical and Atomic/Molecular	95	38	57	0	4	1	48	0	0	3	1
Elementary Particles	170	71	99	0	8	0	86	0	1	4	0
Fluids	19	7	12	0	0	1	9	0	0	1	1
Nuclear	81	23	58	0	8	0	47	0	0	0	3
Optics	96	35	60	0	8	2	47	0	2	0	1
Plasma and High-Temperature	62	21	40	0	3	0	36	0	0	1	0
Polymer	29	15	14	0	0	0	14	0	0	0	0
Solid State and Low-Temperature	335	140	194	1	38	0	147	2	1	3	2
Physics, General	340	149	159	1	22	2	125	1	0	5	3
Physics, Other	144	43	93	0	11	1	79	0	0	1	1
CHEMISTRY	2,139	674	1,400	2	157	31	1,143	15	8	30	14
Analytical	286	78	206	0	15	5	178	1	1	4	2
Inorganic	238	48	185	0	16	6	156	2	1	4	0
Nuclear	8	0	8	0	0	0	8	0	0	0	0
Organic	517	164	351	1	40	10	280	5	1	12	2
Medicinal/Pharmaceutical	98	31	66	0	15	1	48	0	1	1	0
Physical	337	89	244	0	23	2	207	2	3	4	3
Polymer	107	40	67	0	14	0	53	0	0	0	0
Theoretical	53	15	38	0	2	0	33	1	0	1	1
Chemistry, General	433	194	192	1	27	6	146	3	0	3	6
Chemistry, Other	62	15	43	0	5	1	34	1	1	1	0
EARTH, ATMOS., & MARINE SCI.	790	240	516	4	23	5	464	1	2	10	7
Atmospheric Physics and Chemistry	13	5	8	0	2	0	6	0	0	0	0
Atmospheric Dynamics	23	9	14	0	3	0	11	0	0	0	0
Meteorology	34	20	12	0	1	0	11	0	0	0	0
Atmos. Sci./Meteorology, General	22	8	12	0	1	0	8	0	0	2	1
Atmos. Sci./Meteorology, Other	7	2	4	0	0	0	4	0	0	0	0
Geology	197	49	141	2	5	3	127	0	0	0	4
Geochemistry	50	20	29	1	2	0	25	0	0	1	0
Geophysics and Seismology	101	31	62	0	0	0	59	0	1	1	1
Paleontology	21	3	18	0	0	0	18	0	0	0	0
Mineralogy, Petrology	9	2	7	0	0	0	7	0	0	0	0
Stratigraphy, Sedimentation	28	6	22	0	0	0	21	0	0	1	0
Geomorphology and Glacial Geology	16	5	11	0	1	0	10	0	0	0	0
Geological & Relat. Sci., General	15	9	5	0	0	0	4	0	0	1	0
Geological & Relat. Sci., Other	17	9	8	0	0	0	7	0	0	1	0
Environmental Science	68	12	54	1	2	1	48	1	0	1	0
Hydrology and Water Resources	25	7	18	0	2	0	15	0	0	1	0
Oceanography	99	31	59	0	3	0	54	0	1	1	0
Marine Sciences	27	8	19	0	0	0	19	0	0	0	0
Misc. Physical Sciences, Other	18	4	13	0	1	1	10	0	0	0	1
ENGINEERING	5,696	2,783	2,691	2	525	50	2,022	10	12	43	27
Aerospace, Aeronautic. & Astronautic.	228	99	120	0	12	4	101	0	1	2	0
Agricultural	86	57	29	0	3	0	25	0	1	0	0
Bioengineering and Biomedical	171	51	113	0	12	0	99	0	1	1	0
Ceramic Sciences	42	23	18	0	5	0	13	0	0	0	0
Chemical	624	275	330	1	49	6	263	2	1	6	2
Civil	563	346	202	0	39	5	147	1	0	9	1
Communications	22	12	10	0	1	0	8	0	0	0	1
Computer	167	85	80	0	20	2	54	1	0	2	1

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A.

*Includes individuals who did not report their citizenship at time of doctorate.

APPENDIX TABLE A-2 (Continued)

Subfield of Doctorate	Total Doctorates*	Non-U.S. Citizens Temp. Visas	U.S. Citizens and Non-U.S. with Permanent Visas								
			Total	Native -Amer.	Asian	Black	White	Puerto Rican	Mex-ican Amer.	Other His-panic	Unkn. Race
Electrical, Electronics	1,353	605	702	0	177	13	489	4	2	8	9
Engineering Mechanics	128	75	49	0	9	0	39	0	0	1	0
Engineering Physics	21	6	15	0	3	0	12	0	0	0	0
Engineering Science	55	32	21	0	2	1	17	0	1	0	0
Environmental Health Engineering	61	33	26	0	3	0	21	0	0	2	0
Industrial/Manufacturing	236	125	105	0	25	9	68	0	0	3	0
Materials Science	416	185	222	0	39	4	172	1	1	2	3
Mechanical	901	478	383	0	84	3	288	1	0	2	5
Metallurgical	77	41	27	0	4	0	21	0	1	1	0
Mining and Mineral	24	18	6	0	0	0	6	0	0	0	0
Nuclear	108	45	47	1	7	1	33	0	2	2	1
Ocean	24	15	6	0	1	0	5	0	0	0	0
Operations Research	56	19	35	0	6	0	28	0	0	1	0
Petroleum	52	29	19	0	7	0	11	0	0	0	1
Polymer/Plastics	61	34	26	0	4	0	21	0	0	1	0
Systems	57	14	41	0	4	2	33	0	0	0	2
Engineering, General	47	25	18	0	2	0	15	0	0	0	1
Engineering, Other	116	56	41	0	7	0	33	0	1	0	0
LIFE SCIENCES	7,397	1,988	5,246	14	451	152	4,423	40	36	82	48
BIOLOGICAL SCIENCES	5,090	1,246	3,747	7	369	74	3,143	27	24	63	40
Biochemistry	845	253	579	2	77	11	461	3	2	13	10
Biophysics	103	31	70	0	10	0	55	0	0	3	2
Biotechnology Research	8	1	7	0	0	0	7	0	0	0	0
Bacteriology	14	3	11	0	2	0	9	0	0	0	0
Plant Genetics	41	18	23	0	3	0	17	0	1	1	1
Plant Pathology	41	17	24	0	1	0	22	0	0	0	1
Plant Physiology	48	23	24	0	2	0	22	0	0	0	0
Botany, Other	105	36	69	0	1	0	65	1	1	0	1
Anatomy	76	13	62	0	9	1	48	0	1	3	0
Biometrics and Biostatistics	74	24	45	0	6	2	37	0	0	0	0
Cell Biology	231	41	187	0	13	4	163	2	0	4	1
Ecology	176	29	147	0	2	4	135	2	2	2	0
Developmental Biology/Embryology	57	9	48	0	3	1	44	0	0	0	0
Endocrinology	16	3	13	0	1	0	10	0	2	0	0
Entomology	114	40	73	0	3	1	66	1	0	1	1
Biological Immunology	169	36	131	0	17	1	106	1	0	3	3
Molecular Biology	582	126	452	0	57	8	372	5	2	4	4
Microbiology	433	114	313	1	28	7	263	5	3	6	0
Neuroscience	275	45	224	1	20	2	193	1	2	3	2
Nutritional Sciences	134	34	90	0	8	4	76	0	0	2	0
Parasitology	17	2	15	0	0	3	11	0	0	1	0
Toxicology	99	22	74	0	7	1	63	0	2	1	0
Human and Animal Genetics	172	29	142	0	9	1	129	0	1	1	1
Human and Animal Pathology	130	27	99	0	12	1	83	0	0	2	1
Human and Animal Pharmacology	273	64	202	2	19	9	165	0	2	3	2
Human and Animal Physiology	271	72	194	1	18	7	162	1	0	4	1
Zoology, Other	114	27	87	0	3	2	76	2	2	2	0
Biological Sciences, General	308	74	220	0	22	2	181	3	1	3	8
Biological Sciences, Other	164	33	122	0	16	2	102	0	0	1	1
HEALTH SCIENCES	1,201	214	941	6	48	59	799	3	8	13	5
Speech-Lang. Pathology & Audiology	98	12	84	0	1	7	72	1	2	1	0
Environmental Health	38	6	32	1	2	2	26	0	0	0	1
Health Systems/Services Admin.	35	5	25	0	2	4	18	0	1	0	0
Public Health	155	32	114	0	7	10	95	0	0	1	1
Epidemiology	120	28	90	0	5	4	76	1	1	3	0
Nursing	373	17	349	4	3	19	315	0	4	3	1
Pharmacy	148	63	76	0	17	2	54	1	0	1	1
Rehabilitation/Therapeutic Services	36	4	32	0	1	6	25	0	0	0	0
Veterinary Medicine	61	24	34	0	1	1	32	0	0	0	0
Health Sciences, General	38	11	26	0	5	1	20	0	0	0	0
Health Sciences, Other	99	12	79	1	4	3	66	0	0	4	1
AGRICULTURAL SCIENCES	1,106	528	558	1	34	19	481	10	4	6	3
Agricultural Economics	137	80	52	0	5	3	44	0	0	0	0
Agricultural Business & Management	1	1	0	0	0	0	0	0	0	0	0
Animal Breeding and Genetics	18	13	5	0	0	0	5	0	0	0	0
Animal Nutrition	52	20	32	0	2	1	28	1	0	0	0
Dairy Science	11	6	5	0	0	0	4	0	1	0	0
Poultry Science	16	8	8	0	1	1	6	0	0	0	0
Fisheries Science and Management	38	12	25	0	0	0	25	0	0	0	0
Animal Sciences, Other	74	22	48	0	3	2	43	0	0	0	0
Agronomy and Crop Science	104	53	48	0	5	1	40	2	0	0	0
Plant Breeding and Genetics	68	28	40	0	2	0	34	2	1	0	1
Plant Pathology	58	33	24	0	2	0	20	1	0	1	0
Plant Sciences, Other	28	10	18	0	4	0	13	1	0	0	0
Food Engineering	9	6	3	0	0	0	2	1	0	0	0
Food Sciences, Other	140	87	50	1	5	4	38	2	0	0	0
Soil Chemistry/Microbiology	26	11	15	0	0	0	15	0	0	0	0
Soil Sciences, Other	59	24	35	0	1	2	30	0	0	2	0

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APPENDIX TABLE A-2 (Continued)

Subfield of Doctorate	Total Doctorates*	Non-U.S. Citizens Temp. Visas	U.S. Citizens and Non-U.S. with Permanent Visas								
			Total	Native Amer.	Asian	Black	White	Puerto Rican	Mexican Amer.	Other Hispanic	Unkn. Race
Horticulture Science	62	35	26	0	0	0	24	0	1	1	0
Forest Biology	18	5	13	0	1	0	12	0	0	0	0
Forest Engineering	3	2	1	0	1	0	0	0	0	0	0
Forest Management	17	6	11	0	1	0	9	0	0	1	0
Wood Sci. and Pulp/Paper Tech.	20	8	12	0	0	0	12	0	0	0	0
Conservation/Renewable Nat. Res.	13	4	9	0	0	0	9	0	0	0	0
Forestry and Related Sci., Other	55	19	35	0	1	3	31	0	0	0	0
Wildlife/Range Management	54	18	35	0	0	0	34	0	1	0	0
Agricultural Sciences, General	10	7	3	0	0	1	1	0	0	1	0
Agricultural Sciences, Other	15	10	5	0	0	1	2	0	0	0	2
SOCIAL SCIENCES (INCL. PSYCH.)	6,545	1,074	5,266	19	209	243	4,536	43	61	109	46
Anthropology	342	36	300	2	10	8	263	3	3	9	2
Area Studies	36	13	22	0	3	3	14	0	0	1	1
Criminology	39	8	31	0	0	4	25	0	0	1	1
Demography/Population Studies	22	8	13	0	2	0	10	1	0	0	0
Economics	906	425	447	0	43	20	365	2	2	10	5
Econometrics	24	13	11	0	3	0	7	1	0	0	0
Geography	137	38	98	1	5	1	85	1	0	2	3
International Relations/Affairs	102	32	70	0	3	6	54	0	1	3	3
Political Science and Government	507	110	366	0	23	20	309	3	3	4	4
Public Policy Analysis	98	11	87	0	3	10	72	1	0	1	0
Sociology	513	124	382	0	19	29	306	5	7	8	8
Statistics	48	32	15	0	3	0	12	0	0	0	0
Urban Affairs/Studies	123	40	77	0	10	13	49	1	1	2	1
Social Sciences, General	32	10	22	1	0	2	19	0	0	0	0
Social Sciences, Other	197	26	169	0	9	8	144	1	2	3	2
PSYCHOLOGY	3,419	148	3,156	15	73	119	2,802	24	42	65	16
Clinical	1,372	19	1,302	6	30	52	1,141	13	23	34	3
Cognitive and Psycholinguistics	104	10	94	0	4	2	85	0	1	1	1
Comparative	5	0	5	0	0	0	5	0	0	0	0
Counseling	488	9	474	2	6	18	432	2	7	5	2
Developmental and Child	202	19	183	0	7	3	166	2	0	4	1
Experimental	143	17	126	1	2	4	117	1	0	1	0
Educational	91	11	80	0	3	4	70	0	1	2	0
Industrial and Organizational	158	8	148	2	3	6	128	5	3	1	0
Personality	22	2	20	0	2	3	14	0	1	0	0
Physiological/Psychobiology	85	7	78	0	2	4	69	1	0	2	0
Psychometrics	9	1	8	0	0	0	8	0	0	0	0
Quantitative	16	4	12	0	1	0	11	0	0	0	0
School	94	0	92	1	0	2	85	0	0	3	1
Social	125	12	113	0	6	7	97	0	0	2	1
Psychology, General	308	18	250	2	4	10	218	0	5	6	5
Psychology, Other	197	11	171	1	3	4	156	0	1	4	2
HUMANITIES	4,481	568	3,777	13	133	112	3,319	38	36	81	45
History, American	269	14	255	1	2	5	238	2	3	2	2
History, European	162	13	149	0	3	2	141	0	0	1	2
History/Philosophy of Sci. & Tech.	37	8	27	0	1	1	22	1	1	1	0
History, General	117	15	87	0	2	6	71	1	2	4	1
History, Other	143	27	114	0	6	5	94	3	0	4	2
Classics	61	5	55	1	2	0	51	0	0	0	1
Comparative Literature	153	40	113	0	8	3	90	2	3	4	3
Linguistics	214	85	117	1	22	6	82	0	0	4	2
Speech and Rhetorical Studies	111	5	105	0	2	9	91	0	2	0	1
Letters, General	18	1	17	1	0	0	15	0	0	1	0
Letters, Other	37	1	36	0	0	3	30	0	0	2	1
American Studies	101	9	87	1	1	6	77	0	0	2	0
Archeology	38	4	33	1	1	1	29	1	0	0	0
Art History/Criticism/Conservation	158	8	146	0	5	2	134	0	0	1	4
Music	616	66	522	1	31	15	458	2	4	5	6
Philosophy	274	47	213	1	3	6	191	1	1	5	5
Religion	255	22	228	0	2	5	215	0	3	1	2
Drama/Theater Arts	91	6	83	0	3	3	75	1	0	1	0
LANGUAGE AND LITERATURE	1,525	176	1,309	2	37	28	1,148	24	17	43	10
American	293	24	269	0	9	11	240	1	3	3	2
English	655	58	577	1	17	7	535	2	3	8	4
French	137	15	119	1	0	7	110	0	0	0	1
German	105	21	80	0	1	0	77	0	1	0	1
Italian	19	5	13	0	0	0	13	0	0	0	0
Spanish	180	36	140	0	2	0	80	21	7	30	0
Russian	28	3	25	0	0	0	25	0	0	0	0
Slavic	13	1	11	0	0	0	11	0	0	0	0
Chinese	21	4	17	0	5	0	10	0	1	0	1
Japanese	11	1	10	0	2	0	8	0	0	0	0
Hebrew	15	0	12	0	0	0	12	0	0	0	0
Arabic	10	1	9	0	0	2	7	0	0	0	0
Other Language and Literature	38	7	27	0	1	1	20	0	2	2	1
Humanities, General	30	4	26	1	0	1	23	0	0	0	1
Humanities, Other	71	12	55	2	2	5	44	0	0	0	2

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A.

*Includes individuals who did not report their citizenship at time of doctorate.

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APPENDIX TABLE A-2 (Continued)

Subfield of Doctorate	Total Doctorates*	Non-U.S. Citizens Temp. Visas	U.S. Citizens and Non-U.S. with Permanent Visas								
			Total	Native Amer.	Asian	Black	White	Puerto Rican	Mexican Amer.	Other Hispanic	Unkn. Race
EDUCATION	6,647	546	5,921	50	140	553	4,928	75	69	76	30
Curriculum and Instruction	853	74	766	9	27	56	633	26	5	9	1
Educational Admin. and Supervision	1,339	46	1,284	8	19	137	1,074	7	24	12	3
Educational Leadership	762	25	725	9	11	86	594	1	10	11	3
Educ./Instruct. Media Design	95	24	70	1	2	6	60	0	0	1	0
Educ. Stat./Research Methods	64	8	55	0	4	3	48	0	0	0	0
Educ. Assess., Test., & Meas.	23	7	16	0	0	1	14	1	0	0	0
Educational Psychology	288	23	263	2	9	15	224	5	4	3	1
School Psychology	86	1	84	1	0	3	75	2	1	2	0
Social/Phil. Found. of Educ.	108	17	87	1	6	7	67	2	1	3	0
Special Education	276	20	248	2	4	18	217	1	3	1	2
Counseling Educ./Couns. & Guidance	287	12	264	4	1	33	220	1	2	3	0
Educ. Eval. & Res./Higher Educ.	359	33	316	5	13	33	256	1	4	3	1
Pre-elementary/Early Childhood	97	9	85	1	4	14	61	2	1	2	0
Elementary Education	65	4	61	0	2	4	54	1	0	0	0
Secondary Education	33	5	28	0	1	1	25	0	0	1	0
Adult and Continuing Education	233	12	220	3	4	17	186	6	1	2	1
TEACHING FIELDS	940	146	777	2	14	49	679	11	7	10	5
Agricultural Education	54	15	39	0	0	8	26	1	2	2	0
Art Education	38	6	32	0	1	2	27	1	0	0	1
Business Education	27	2	24	0	1	0	20	2	0	0	1
English Education	53	5	48	0	0	0	47	0	0	0	1
Foreign Languages Education	48	19	28	0	2	3	16	3	2	2	0
Health Education	82	5	72	0	0	10	61	0	0	1	0
Home Economics Education	14	3	11	0	0	2	9	0	0	0	0
Technical/Industrial Arts Education	16	4	12	0	0	1	11	0	0	0	0
Mathematics Education	69	13	55	0	0	4	51	0	0	0	0
Music Education	80	8	70	1	2	1	62	1	1	1	1
Nursing Education	19	0	19	0	1	0	18	0	0	0	0
Physical Education and Coaching	161	35	124	0	0	5	116	1	0	2	0
Reading Education	95	5	85	0	1	3	78	2	0	1	0
Science Education	73	14	59	0	2	4	53	0	0	0	0
Social Science Education	9	1	8	0	1	1	6	0	0	0	0
Technical Education	21	5	16	0	0	1	15	0	0	0	0
Trade and Industrial Education	24	3	21	1	1	2	15	0	1	1	0
Teacher Ed./Spec. Acad. & Voc., Other	57	3	54	0	2	2	48	0	1	0	1
Education, General	410	48	295	1	11	42	216	4	1	9	11
Education, Other	329	32	277	1	8	28	225	4	5	4	2
PROFESSIONAL/OTHER FIELDS	2,492	601	1,805	10	109	106	1,516	11	14	19	20
BUSINESS AND MANAGEMENT	1,280	393	841	5	68	26	721	4	4	6	7
Accounting	183	37	144	0	7	5	130	0	1	0	1
Banking/Financial Support Services	170	71	99	0	10	1	83	0	0	2	3
Business Admin. and Management	323	87	218	2	11	8	193	2	1	1	0
Business/Managerial Economics	33	12	21	0	0	1	18	0	0	1	1
Mgmt. Info. Sys./Bus. Data Proc.	101	41	59	0	13	1	45	0	0	0	0
Marketing Management and Research	166	57	108	0	13	4	88	1	1	0	1
Operations Research	63	36	25	0	4	0	21	0	0	0	0
Organizational Behavior	73	14	59	1	1	2	53	1	0	1	0
Bus. Mgmt./Admin. Serv., General	88	17	51	2	4	1	42	0	1	1	0
Bus. Mgmt./Admin. Serv., Other	80	21	57	0	5	3	48	0	0	0	1
COMMUNICATIONS	322	55	258	4	10	20	212	1	5	4	2
Communications Research	33	5	28	0	0	3	24	0	1	0	0
Mass Communications	117	26	89	1	2	10	71	1	2	1	1
Communication Theory	41	6	35	0	1	1	32	0	1	0	0
Communications, General	69	9	57	1	3	2	47	0	0	3	1
Communications, Other	62	9	49	2	4	4	38	0	1	0	0
OTHER PROFESSIONAL FIELDS	863	145	690	1	31	59	569	6	5	8	11
Architectural Environmental Design	54	20	33	0	4	5	24	0	0	0	0
Home Economics	57	14	43	0	1	2	40	0	0	0	0
Law	29	15	13	0	2	0	10	0	0	0	1
Library Science	70	14	56	0	3	8	43	0	0	2	0
Parks/Recreation/Leisure/Fitness	44	12	30	0	1	0	28	1	0	0	0
Public Administration	116	12	93	0	2	8	77	0	1	3	2
Social Work	237	28	201	0	9	29	152	2	3	1	5
Theology/Religious Education	240	29	206	1	8	6	183	3	0	2	3
Professional Fields, General	1	1	0	0	0	0	0	0	0	0	0
Professional Fields, Other	15	0	15	0	1	1	12	0	1	0	0
OTHER FIELDS	27	8	16	0	0	1	14	0	0	1	0

SOURCE: National Research Council, Survey of Earned Doctorates.

APPENDIX TABLE A-3 Statistical Profile of Doctorate Recipients, by Major Field, 1993

Total All Doctorates

		1993 Total	Physics and Astronomy	Chemistry	Earth, Atmos. and Marine Sci.	Mathematics	Computer Sciences	PHYSICAL SCIENCES	ENGINEERING	Biochemistry	Other Biosciences	Biosciences Subtotal	Health Sciences	Agricultural Sciences	LIFE SCIENCES
Number in Field		**39,754**	**1,543**	**2,139**	**790**	**1,146**	**878**	**6,496**	**5,696**	**845**	**4,245**	**5,090**	**1,201**	**1,106**	**7,397**
Men	%	62.0	87.4	72.7	79.2	77.0	84.4	79.3	90.9	62.4	59.2	59.7	35.3	76.6	58.3
Women		38.0	12.6	27.3	20.8	23.0	15.6	20.7	9.1	37.6	40.8	40.3	64.7	23.4	41.7
U.S. Citizenship	%	66.4	52.5	59.5	59.9	43.3	48.3	53.5	39.1	63.1	68.6	67.7	73.3	45.4	65.3
Non-U.S., Permanent Visa		5.7	6.9	6.0	5.4	8.2	9.6	7.0	8.2	5.4	6.0	5.9	5.1	5.1	5.7
Non-U.S., Temporary Visa		25.0	37.8	31.5	30.4	45.1	39.7	36.4	48.9	29.9	23.4	24.5	17.8	47.7	26.9
Unknown		3.0	2.9	3.0	4.3	3.4	2.4	3.1	3.9	1.5	2.0	1.9	3.8	1.8	2.2
Married	%	57.4	49.7	52.7	61.4	54.4	57.6	54.0	60.8	54.3	56.6	56.2	58.0	67.7	58.2
Not Married		34.0	43.4	39.4	29.9	37.3	31.5	37.7	31.1	39.2	36.8	37.2	31.6	25.6	34.6
Unknown		8.6	6.9	7.9	8.7	8.4	10.8	8.2	8.1	6.5	6.6	6.6	10.4	6.7	7.2
Median Age at Doct.	Yrs	34.1	30.4	29.7	33.4	31.1	32.3	30.9	31.6	30.4	31.6	31.4	38.2	34.5	32.5
Percent with Bacc. in Same Field as Doctorate	%	55.6	76.3	76.9	55.2	73.3	35.2	67.9	80.1	25.4	55.3	50.4	50.8	60.4	51.9
Percent with Masters	%	78.6	66.2	42.9	79.7	75.9	86.4	64.6	86.7	34.8	49.0	46.7	83.9	91.9	59.5
Median Time Lapse from Bacc. to Doct.															
Total Time	Yrs	10.5	7.8	7.2	10.3	8.5	9.5	8.3	8.8	7.9	8.7	8.6	13.9	10.7	9.4
Registered Time		7.1	6.7	5.8	7.5	6.7	7.0	6.5	6.3	6.4	6.8	6.8	7.6	6.6	6.8
Postdoctoral Study Plans	%	26.4	62.9	52.8	44.1	24.3	13.2	43.8	25.1	82.0	72.1	73.8	17.8	33.1	58.6
Fellowship		13.8	23.7	26.5	19.9	12.7	5.7	19.8	8.5	54.1	43.7	45.4	9.7	12.1	34.6
Research Assoc.		10.1	37.2	25.1	22.9	9.0	6.6	22.4	15.1	20.6	20.3	20.3	5.5	19.3	17.8
Traineeship		0.9	0.9	0.5	0.8	1.4	0.6	0.8	0.8	1.8	2.0	2.0	0.7	0.9	1.6
Other Study		1.6	1.1	0.7	0.5	1.3	0.3	0.8	0.6	5.6	6.1	6.1	1.9	0.8	4.6
Planned Employment After Doctorate	%	65.6	29.2	39.1	47.3	66.1	79.0	47.9	66.7	13.3	22.8	21.2	73.6	58.6	35.3
Educ. Institution*		39.3	9.4	7.1	18.9	48.6	38.4	20.6	20.5	4.5	10.8	9.7	44.0	24.4	17.5
Industry/Business		12.9	12.7	27.8	11.9	10.0	32.3	19.8	34.0	6.4	5.3	5.5	9.9	14.6	7.6
Government		5.4	3.2	1.8	11.5	2.3	2.8	3.5	6.8	1.1	3.5	3.1	8.6	12.7	5.4
Nonprofit		3.4	0.6	0.3	1.0	1.0	1.1	0.7	1.1	0.7	1.3	1.2	6.2	1.4	2.1
Other & Unknown		4.6	3.3	2.1	4.1	4.2	4.3	3.3	4.4	0.6	1.9	1.7	4.9	5.5	2.8
Postdoc. Plans Unknown	%	8.0	7.8	8.1	8.6	9.6	7.7	8.3	8.3	4.7	5.1	5.0	8.6	8.3	6.1
Definite Postdoc. Study	%	17.6	41.3	38.8	27.7	14.4	9.6	29.8	12.7	63.2	55.4	56.7	11.1	17.7	43.5
Seeking Postdoc. Study		8.8	21.6	14.0	16.3	9.9	3.6	14.0	12.4	18.8	16.7	17.0	6.7	15.4	15.1
Definite Employment		43.4	14.5	26.8	32.4	39.1	52.1	30.1	37.5	8.8	15.4	14.3	53.8	38.5	24.3
Seeking Employment		22.2	14.7	12.3	14.9	27.0	27.0	17.8	29.2	4.5	7.4	6.9	19.8	20.1	11.0
Employment Commitments After Doctorate		**17,235**	**224**	**573**	**256**	**448**	**457**	**1,958**	**2,136**	**74**	**654**	**728**	**646**	**426**	**1,800**
Primary Activity†															
R & D	%	27.1	58.5	70.0	51.6	34.8	56.7	55.1	63.4	55.4	45.6	46.6	32.0	53.1	42.9
Teaching		33.4	21.4	11.5	20.3	46.2	26.7	25.3	15.3	14.9	23.1	22.3	34.4	18.5	25.7
Administration		11.4	1.3	1.2	2.0	0.9	1.1	1.2	2.1	1.4	3.5	3.3	11.9	4.5	6.7
Prof. Services		10.3	4.0	4.4	10.9	4.7	2.0	4.7	5.2	12.2	9.3	9.6	10.1	9.2	9.7
Other		2.7	4.0	1.6	3.1	1.3	0.9	1.8	2.8	5.4	4.0	4.1	1.5	5.2	3.4
Secondary Activity															
R & D	%	25.1	15.2	10.6	23.4	40.8	22.3	22.5	16.4	16.2	21.4	20.9	29.7	19.0	23.6
Teaching		12.9	7.6	4.2	14.1	17.6	19.3	12.5	13.0	8.1	12.5	12.1	17.5	14.8	14.7
Administration		8.2	12.9	18.2	9.8	3.8	6.1	10.4	10.8	13.5	11.3	11.5	8.0	11.3	10.2
Prof. Services		6.7	5.8	6.5	7.4	3.1	6.6	5.8	7.9	2.7	8.0	7.4	10.5	7.7	8.6
Other		2.3	4.0	1.7	1.6	0.7	0.7	1.5	2.2	1.4	2.1	2.1	2.6	1.9	2.2
No Secondary Activity		29.7	43.8	47.5	31.6	21.9	32.4	35.6	38.6	47.3	30.1	31.9	21.5	35.7	29.1
Activity(ies) Unknown	%	15.1	10.7	11.3	12.1	12.1	12.7	11.8	11.2	10.8	14.5	14.1	10.1	9.6	11.6
Region of Employment After Doctorate‡															
New England	%	5.8	11.6	8.0	3.5	4.9	7.0	6.9	6.2	8.1	5.5	5.8	4.3	2.6	4.5
Middle Atlantic		13.4	13.4	18.3	7.0	12.1	21.0	15.5	11.9	9.5	12.2	12.0	11.5	4.7	10.1
East No. Central		12.8	9.4	17.6	7.0	15.0	10.1	12.9	11.5	12.2	8.7	9.1	16.4	7.0	11.2
West No. Central		6.9	5.4	7.3	4.3	6.0	6.3	6.2	4.4	5.4	5.2	5.2	5.6	9.2	6.3
South Atlantic		15.4	11.2	12.7	15.6	16.5	9.2	13.0	11.0	6.8	16.7	15.7	19.0	10.8	15.7
East So. Central		4.4	1.8	4.7	4.3	3.8	2.6	3.6	4.1	0.0	4.7	4.3	5.4	3.5	4.5
West So. Central		8.3	4.9	4.5	14.8	5.6	6.1	6.5	6.5	9.5	6.9	7.1	11.3	5.2	8.2
Mountain		4.7	5.8	2.4	11.3	6.0	3.9	5.2	5.8	5.4	4.3	4.4	3.9	5.4	4.4
Pacific & Insular		11.0	18.8	11.2	10.5	9.6	11.8	11.7	13.0	20.3	13.1	13.9	8.0	10.6	11.0
U.S., Region Unknown		3.9	5.4	4.5	2.3	2.7	2.6	3.5	2.5	9.5	4.7	5.2	3.6	1.6	3.8
Foreign		13.1	12.1	8.6	19.1	17.4	18.8	14.8	22.6	13.5	17.4	17.0	10.5	39.2	19.9
Region Unknown		0.3	0.4	0.0	0.0	0.4	0.4	0.3	0.5	0.0	0.5	0.4	0.5	0.2	0.4

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Physical Sciences includes Mathematics and Computer Sciences, as well as Physics/Astronomy, Chemistry, and Earth/Atmospheric/Marine Sciences. Refer also to the explanatory note about this table in front of Appendix A.

*Includes 2-year, 4-year, and foreign colleges and universities, medical schools, and elementary/secondary schools.

†Includes only recipients with definite employment plans. Revisions to the survey form in 1990 appear to have resulted in a higher rate of nonresponse to the item on work activity than in previous years. The nonresponse rate in 1993 was 15.1% compared to 6.2% in 1989.

‡Includes only recipients with definite employment plans. See Table A-3 explanatory note for regional definitions.

APPENDIX TABLE A-3 (Continued)

Psychology	Economics	Anthropology and Sociology	Political Sci./ Internat'l Rel.	Other Social Sciences	SOCIAL SCI. INCL. PSYCH.	TOTAL SCIENCES & ENGINEERING	History	Eng. and Amer. Lang. and Lit.	Foreign Lang. and Lit.	Other Humanities	HUMANITIES	EDUCATION	Business and Management	Other Professional Fields	Other Fields§	PROFESSIONAL/ OTHER FIELDS	TOTAL NONSCIENCES
3,419	**930**	**855**	**609**	**732**	**6,545**	**26,134**	**728**	**948**	**577**	**2,228**	**4,481**	**6,647**	**1,280**	**1,185**	**27**	**2,492**	**13,620**
38.9	77.0	46.7	74.2	57.2	50.7	68.7	64.7	41.9	40.6	56.1	52.5	41.3	72.3	55.0	74.1	64.1	49.1
61.1	23.0	53.3	25.8	42.8	49.3	31.3	35.3	58.1	59.4	43.9	47.5	58.7	27.7	45.0	25.9	35.9	50.9
89.7	41.7	73.3	63.9	64.6	75.5	59.2	82.3	86.4	65.2	77.0	78.3	86.4	59.7	74.3		66.6	80.1
2.6	7.5	6.4	7.7	8.3	4.9	6.4	4.5	2.8	15.1	5.4	6.0	2.6	6.0	5.7		5.8	4.3
4.3	47.1	18.7	23.3	25.4	16.4	31.4	10.6	8.6	16.3	14.1	12.7	8.2	30.7	16.9		24.1	12.6
3.4	3.7	1.5	5.1	1.6	3.1	3.0	2.6	2.1	3.5	3.5	3.0	2.7	3.6	3.1		3.5	3.0
50.0	54.5	55.2	53.9	58.2	52.6	56.3	55.8	52.2	48.9	52.2	52.4	63.7	62.6	61.3		61.6	59.6
40.4	37.2	37.5	35.1	33.1	38.3	35.5	35.3	39.0	43.5	38.6	38.8	26.8	28.4	28.5		28.7	31.1
9.7	8.3	7.3	11.0	8.7	9.2	8.1	8.9	8.8	7.6	9.2	8.9	9.5	9.0	10.2		9.8	9.3
33.8	32.0	36.7	34.1	36.9	34.3	32.1	35.6	36.0	34.9	35.6	35.6	43.0	35.5	39.6		37.4	39.7
61.3	59.5	47.8	49.4	21.0	53.7	62.5	58.7	66.6	52.2	52.4	56.4	37.4	36.6	26.2		31.4	42.5
78.9	75.7	89.2	83.3	90.6	81.5	72.2	88.3	88.9	87.9	86.6	87.5	93.9	84.1	93.0		88.2	90.8
10.0	9.0	12.6	10.6	12.5	10.4	9.2	12.1	11.9	11.1	12.0	11.9	19.2	11.9	15.5		13.3	15.7
7.2	6.8	8.9	8.0	7.9	7.5	6.7	8.6	8.2	8.2	8.2	8.3	8.2	7.2	8.0		7.5	8.1
24.4	7.3	17.1	9.7	11.5	18.2	37.5	10.0	5.9	6.1	7.2	7.3	4.1	2.7	5.5		4.2	5.1
16.8	3.9	12.0	6.9	6.3	12.3	19.7	6.3	3.0	2.9	4.1	4.1	1.8	0.8	3.0		1.9	2.6
3.8	2.8	3.7	1.6	4.4	3.5	14.8	1.2	0.4	1.0	1.2	1.0	1.2	1.2	1.2		1.3	1.2
2.2	0.1	0.2	0.7	0.3	1.3	1.1	0.4	0.2	0.7	0.3	0.4	0.3	0.6	0.8		0.7	0.4
1.6	0.5	1.1	0.5	0.5	1.1	1.9	2.1	2.3	1.4	1.6	1.8	0.7	0.2	0.5		0.3	1.0
66.7	84.7	76.8	79.0	80.3	73.3	54.8	82.0	86.1	84.7	83.8	84.1	87.5	89.7	84.6		87.0	86.3
26.0	50.1	57.0	60.8	50.3	39.4	24.4	67.9	78.0	76.3	66.6	70.4	67.7	74.7	53.3		64.1	68.0
14.1	9.0	5.0	4.4	7.5	10.5	17.1	2.5	3.1	2.4	4.6	3.7	4.6	9.6	6.5		8.2	4.9
8.5	12.3	4.3	6.4	8.7	8.3	6.0	3.7	0.4	0.5	1.4	1.5	5.8	2.0	7.5		4.7	4.2
11.0	3.3	4.2	3.4	6.0	7.8	2.9	2.5	0.4	0.7	6.1	3.6	3.8	0.8	12.3		6.3	4.2
7.1	10.0	6.3	3.9	7.8	7.2	4.4	5.5	4.2	4.9	5.2	5.0	5.5	2.6	4.9		3.7	5.0
8.9	8.0	6.1	11.3	8.2	8.5	7.7	8.0	8.0	9.2	8.9	8.6	8.5	7.6	10.0		8.8	8.6
17.2	5.4	9.0	4.3	6.0	12.0	25.5	5.4	2.8	3.1	3.8	3.8	1.9	0.9	3.0		1.9	2.5
7.2	1.9	8.1	5.4	5.5	6.2	12.0	4.7	3.1	2.9	3.4	3.5	2.2	1.8	2.5		2.3	2.6
44.4	58.6	45.1	52.2	50.4	47.9	34.6	49.9	52.3	53.6	50.3	51.1	64.1	71.1	61.8		66.3	60.2
22.3	26.1	31.7	26.8	29.9	25.3	20.2	32.1	33.8	31.2	33.5	33.1	23.3	18.6	22.8		20.7	26.0
1,519	**545**	**386**	**318**	**369**	**3,137**	**9,031**	**363**	**496**	**309**	**1,121**	**2,289**	**4,264**	**910**	**732**		**1,651**	**8,204**
13.2	46.1	27.2	20.1	28.2	23.1	43.5	9.6	4.8	8.7	8.1	7.7	5.7	26.9	10.0		19.5	9.1
16.4	27.5	43.3	48.1	35.5	27.1	23.6	58.1	72.6	70.6	62.9	65.3	31.2	51.0	44.0		47.8	44.1
4.0	3.7	6.0	5.7	7.9	4.8	3.8	4.7	4.4	2.9	3.9	4.0	32.5	3.8	15.8		9.1	19.9
50.8	5.9	5.7	2.8	7.9	27.5	13.7	1.4	1.2	1.3	4.8	3.0	8.1	2.2	12.4		6.8	6.4
2.7	3.7	3.1	2.5	2.2	2.8	2.7	4.1	1.4	1.3	4.3	3.2	2.2	2.0	4.6		3.1	2.7
21.4	28.3	33.7	40.9	26.8	26.7	22.7	40.8	41.5	53.1	35.1	39.8	16.8	45.5	32.0		39.4	27.8
13.2	22.0	16.1	13.8	16.8	15.6	14.1	6.9	6.0	8.1	9.5	8.1	10.7	23.5	13.3		18.8	11.6
8.2	4.8	4.4	4.7	6.8	6.6	9.1	5.2	7.7	5.8	6.9	6.6	8.0	3.6	7.0		5.1	7.1
7.6	4.6	3.1	2.8	5.7	5.8	6.9	2.2	2.8	1.0	5.7	3.9	8.6	3.6	6.1		4.8	6.5
3.4	2.4	2.3	1.6	2.4	2.8	2.3	0.3	2.4	0.6	5.5	3.4	2.1	0.9	2.2		1.5	2.4
33.1	24.8	25.6	15.4	23.0	27.8	32.3	22.6	24.0	16.2	21.3	21.4	33.6	8.8	26.4		16.7	26.8
13.0	13.2	14.8	20.8	18.4	14.7	12.6	22.0	15.5	15.2	16.0	16.7	20.1	14.1	13.1		13.6	17.9
5.6	4.0	9.6	6.3	4.9	5.8	5.9	11.6	5.2	8.1	6.2	7.1	5.2	5.5	4.8		5.1	5.7
18.8	9.5	11.1	15.1	10.8	15.0	13.4	14.0	15.9	19.7	13.6	15.0	12.5	12.5	14.1		13.2	13.4
12.9	8.6	14.8	11.9	13.0	12.3	12.0	14.0	15.9	14.9	13.9	14.5	13.6	13.1	12.4		12.9	13.7
8.2	3.3	6.7	7.2	7.3	6.9	6.0	6.1	6.5	7.8	7.8	7.2	8.5	7.0	6.4		6.7	7.8
14.8	23.9	13.0	15.7	15.7	16.4	14.2	16.8	17.1	11.7	15.6	15.6	17.8	15.4	13.9		14.9	16.6
3.5	1.3	2.3	3.1	3.8	3.0	3.7	5.2	5.6	4.9	4.0	4.7	5.4	5.1	4.8		4.9	5.1
7.9	4.6	4.4	4.4	6.5	6.4	6.8	8.0	8.1	6.5	8.7	8.1	10.3	10.1	13.5		11.6	9.9
4.3	1.7	6.2	5.0	5.7	4.3	4.9	2.8	4.4	4.9	4.3	4.2	5.0	4.2	3.8		4.0	4.6
14.1	7.3	11.4	12.3	9.8	11.9	11.9	9.6	9.1	10.7	11.4	10.5	10.6	7.5	8.2		7.8	10.0
6.1	2.0	3.1	1.9	4.3	4.4	3.6	3.6	4.8	2.3	2.9	3.3	5.0	2.9	3.8		3.3	4.2
3.5	33.8	16.8	16.7	17.9	13.4	17.2	8.0	6.9	8.1	11.4	9.4	5.7	16.6	14.1		15.4	8.7
0.3	0.0	0.5	0.3	0.3	0.3	0.3	0.3	0.4	0.6	0.3	0.3	0.2	0.2	0.1		0.2	0.3

§Statistics are not presented for this group because too few records contained the specific data.

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APPENDIX TABLE A-3 (Continued)

Doctorates: Men

		1993 Total	Physics and Astronomy	Chemistry	Earth, Atmos. and Marine Sci.	Mathematics	Computer Sciences	PHYSICAL SCIENCES	ENGINEERING	Biochemistry	Other Biosciences	Biosciences Subtotal	Health Sciences	Agricultural Sciences	LIFE SCIENCES
Total Men		**24,646**	**1,349**	**1,554**	**626**	**882**	**741**	**5,152**	**5,175**	**527**	**2,513**	**3,040**	**424**	**847**	**4,311**
Men as a Percent of Total Doctorates	%	62.0	87.4	72.7	79.2	77.0	84.4	79.3	90.9	62.4	59.2	59.7	35.3	76.6	58.3
U.S. Citizenship	%	58.8	53.3	59.1	57.3	42.2	46.2	52.6	37.3	62.4	66.5	65.8	53.8	43.2	60.1
Non-U.S., Permanent Visa		5.9	5.9	5.1	5.6	6.1	7.7	5.9	8.0	4.9	5.6	5.5	8.3	5.1	5.7
Non-U.S., Temporary Visa		31.9	37.7	32.3	32.9	47.8	43.6	38.1	50.7	30.6	25.8	26.6	32.5	49.9	31.8
Unknown		3.4	3.1	3.5	4.2	3.9	2.6	3.4	4.0	2.1	2.1	2.1	5.4	1.8	2.4
Married	%	60.4	49.3	53.5	65.0	54.3	57.4	54.5	61.4	56.0	59.0	58.5	62.7	73.1	61.7
Not Married		31.4	44.3	38.7	26.7	36.7	32.5	37.5	30.4	37.2	34.7	35.1	25.2	20.7	31.3
Unknown		8.3	6.4	7.8	8.3	9.0	10.1	8.0	8.2	6.8	6.4	6.4	12.0	6.3	7.0
Median Age at Doct.	Yrs	33.2	30.4	29.9	33.6	31.1	32.1	30.9	31.7	30.5	31.8	31.5	34.9	34.7	32.4
Percent with Bacc. in Same Field as Doctorate	%	58.2	75.4	76.1	56.2	71.5	36.2	67.0	81.0	25.8	53.0	48.3	36.8	65.4	50.5
Percent with Masters	%	77.4	65.0	42.3	79.9	74.7	86.8	64.8	86.9	36.2	48.7	46.5	73.6	92.7	58.3
Median Time Lapse from Bacc. to Doct.															
Total Time	Yrs	9.9	7.8	7.3	10.5	8.6	9.3	8.3	8.9	8.0	8.7	8.6	11.0	10.8	9.2
Registered Time		6.9	6.7	5.9	7.4	6.7	6.8	6.5	6.3	6.4	6.9	6.8	7.1	6.5	6.8
Postdoctoral Study Plans	%	28.8	63.8	54.8	44.2	24.1	12.6	44.5	24.9	82.4	71.7	73.5	23.8	33.3	60.7
Fellowship		13.9	23.4	27.5	19.6	12.7	5.3	19.7	8.2	52.9	41.5	43.5	12.3	11.7	34.2
Research Assoc.		12.3	38.3	26.2	23.2	8.5	6.2	23.1	15.3	20.5	20.2	20.3	8.5	19.8	19.0
Traineeship		0.9	1.0	0.4	1.0	1.6	0.7	0.9	0.9	1.9	2.1	2.0	1.2	0.7	1.7
Other Study		1.7	1.1	0.7	0.5	1.4	0.4	0.9	0.5	7.0	7.9	7.7	1.9	1.1	5.8
Planned Employment After Doctorate	%	63.0	29.0	36.9	47.4	65.0	79.8	47.1	66.8	12.1	22.9	21.1	65.6	58.7	32.8
Educ. Institution*		34.8	9.0	5.7	19.2	47.1	36.7	19.7	20.2	3.0	10.7	9.4	30.7	23.8	14.3
Industry/Business		15.6	13.0	27.5	12.0	10.4	34.1	19.9	34.4	6.6	5.5	5.7	16.0	15.1	8.6
Government		5.9	3.1	2.0	11.5	2.4	3.2	3.7	6.9	1.1	3.9	3.4	9.0	14.0	6.1
Nonprofit		2.9	0.6	0.2	1.3	0.9	1.2	0.7	1.1	0.8	1.4	1.3	3.5	0.9	1.4
Other & Unknown		3.9	3.2	1.6	3.5	4.2	4.5	3.1	4.2	0.6	1.4	1.2	6.4	4.7	2.4
Postdoc. Plans Unknown	%	8.2	7.3	8.3	8.3	10.9	7.7	8.4	8.3	5.5	5.4	5.4	10.6	8.0	6.4
Definite Postdoc. Study	%	18.9	41.6	40.7	28.4	13.8	9.2	30.3	12.5	64.1	55.1	56.7	15.6	17.9	45.0
Seeking Postdoc. Study		9.9	22.2	14.0	15.8	10.3	3.4	14.2	12.4	18.2	16.6	16.8	8.3	15.3	15.7
Definite Employment		41.1	14.7	25.7	33.7	37.4	52.2	29.6	37.6	8.5	16.0	14.7	47.6	40.0	22.9
Seeking Employment		22.0	14.3	11.3	13.7	27.6	27.5	17.5	29.2	3.6	7.0	6.4	17.9	18.7	9.9
Employment Commitments After Doctorate		**10,123**	**198**	**399**	**211**	**330**	**387**	**1,525**	**1,945**	**45**	**401**	**446**	**202**	**339**	**987**
Primary Activity†															
R & D	%	34.2	58.6	72.2	53.6	37.3	58.1	56.7	64.1	60.0	48.1	49.3	42.6	54.3	49.6
Teaching		28.9	20.2	9.0	19.0	43.3	25.6	23.5	15.0	8.9	22.2	20.9	17.3	17.4	18.9
Administration		9.7	1.5	1.3	2.4	0.9	1.0	1.3	2.2	0.0	3.7	3.4	9.9	3.8	4.9
Prof. Services		8.8	4.5	4.8	10.4	5.2	1.8	4.9	5.2	13.3	8.2	8.7	14.9	8.8	10.0
Other		3.0	3.5	1.3	2.8	1.2	1.0	1.7	2.8	8.9	3.0	3.6	3.0	5.3	4.1
Secondary Activity															
R & D	%	22.9	14.6	9.8	21.8	37.6	20.4	20.8	16.0	13.3	21.4	20.6	19.3	18.0	19.5
Teaching		13.9	8.1	4.0	16.1	19.1	19.1	13.3	12.8	8.9	13.0	12.6	22.3	15.6	15.6
Administration		8.8	13.6	19.5	10.4	3.3	7.0	10.8	11.3	15.6	11.5	11.9	8.9	12.4	11.4
Prof. Services		6.3	5.1	7.5	8.1	3.6	7.2	6.4	8.2	2.2	7.7	7.2	10.4	8.0	8.1
Other		2.1	3.0	1.5	1.4	0.3	0.8	1.2	2.0	2.2	2.2	2.2	0.5	1.8	1.7
No Secondary Activity		30.5	43.9	46.1	30.3	23.9	33.1	35.5	39.0	48.9	29.4	31.4	26.2	33.9	31.2
Activity(ies) Unknown	%	15.5	11.6	11.5	11.8	12.1	12.4	11.9	10.8	8.9	14.7	14.1	12.4	10.3	12.5
Region of Employment After Doctorate‡															
New England	%	5.8	13.1	9.5	2.8	4.2	7.2	7.3	6.0	11.1	4.7	5.4	5.0	2.1	4.2
Middle Atlantic		12.5	14.1	17.0	6.6	11.8	20.2	14.9	11.5	8.9	11.0	10.8	9.4	4.4	8.3
East No. Central		12.4	8.6	18.3	8.1	14.8	8.8	12.5	11.5	11.1	7.5	7.8	16.3	7.1	9.3
West No. Central		6.7	5.6	7.0	4.3	6.1	5.4	5.8	4.0	8.9	7.0	7.2	6.9	10.9	8.4
South Atlantic		14.1	11.1	13.5	15.2	15.5	9.8	12.9	11.0	6.7	16.5	15.5	19.8	8.8	14.1
East So. Central		3.9	1.0	5.0	5.2	3.0	2.6	3.5	4.0	0.0	4.0	3.6	3.0	2.9	3.2
West So. Central		7.6	4.5	3.8	14.2	5.8	5.4	6.2	6.2	11.1	4.7	5.4	10.4	5.3	6.4
Mountain		4.8	4.5	2.8	11.8	6.7	3.6	5.3	5.9	4.4	4.5	4.5	2.5	5.3	4.4
Pacific & Insular		11.1	20.2	9.5	8.1	10.3	12.9	11.7	13.3	17.8	13.5	13.9	5.9	9.4	10.7
U.S., Region Unknown		3.3	5.1	4.0	2.4	2.7	2.3	3.2	2.6	8.9	5.0	5.4	3.5	1.2	3.5
Foreign		17.6	11.6	9.5	21.3	18.5	21.2	16.3	23.7	11.1	20.9	20.0	16.3	42.2	26.8
Region Unknown		0.4	0.5	0.0	0.0	0.6	0.5	0.3	0.5	0.0	0.7	0.7	1.0	0.3	0.6

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Physical Sciences includes Mathematics and Computer Sciences, as well as Physics/Astronomy, Chemistry, and Earth/Atmospheric/Marine Sciences. Refer also to the explanatory note about this table in front of Appendix A.

*Includes 2-year, 4-year, and foreign colleges and universities, medical schools, and elementary/secondary schools.

†Includes only recipients with definite employment plans. Revisions to the survey form in 1990 appear to have resulted in a higher rate of nonresponse to the item on work activity than in previous years. Among men, the nonresponse rate in 1993 was 15.5% compared to 6.8% in 1989.

‡Includes only recipients with definite employment plans. See Table A-3 explanatory note for regional definitions.

APPENDIX TABLE A-3 (Continued)

Psychology	Economics	Anthropology and Sociology	Political Sci./ Internat'l Rel.	Other Social Sciences	SOCIAL SCI. INCL. PSYCH.	TOTAL SCIENCES & ENGINEERING	History	Eng. and Amer. Lang. and Lit.	Foreign Lang. and Lit.	Other Humanities	HUMANITIES	EDUCATION	Business and Management	Other Professional Fields	Other Fields[§]	PROFESSIONAL/ OTHER FIELDS	TOTAL NONSCIENCES
1,330	**716**	**399**	**452**	**419**	**3,316**	**17,954**	**471**	**397**	**234**	**1,249**	**2,351**	**2,743**	**926**	**652**	**20**	**1,598**	**6,692**
38.9	77.0	46.7	74.2	57.2	50.7	68.7	64.7	41.9	40.6	56.1	52.5	41.3	72.3	55.0	74.1	64.1	49.1
90.2	38.8	67.7	60.8	55.6	68.0	52.8	80.0	83.4	58.1	76.6	76.6	82.4	51.8	68.4		58.6	74.7
1.6	7.0	5.3	8.4	9.8	5.2	6.3	5.1	2.5	14.5	4.6	5.3	3.4	6.6	7.1		6.7	4.9
4.8	49.9	25.3	25.9	32.9	23.4	37.5	11.7	11.1	21.8	14.3	14.0	11.1	37.6	21.0		30.9	16.8
3.5	4.3	1.8	4.9	1.7	3.4	3.3	3.2	3.0	5.6	4.5	4.1	3.1	4.0	3.5		3.9	3.6
53.5	56.8	59.1	56.2	61.6	56.3	58.6	58.2	58.7	47.9	53.5	54.7	73.1	65.1	70.4		66.9	65.2
37.5	35.8	33.1	33.8	29.4	35.1	33.5	32.7	33.5	41.0	36.4	35.6	17.9	25.9	20.6		23.9	25.6
9.0	7.4	7.8	10.0	9.1	8.7	7.9	9.1	7.8	11.1	10.1	9.6	9.0	9.0	9.0		9.2	9.3
33.7	32.3	36.3	34.1	36.0	34.1	32.0	35.6	35.4	34.3	35.6	35.5	42.3	35.1	38.9		36.5	38.5
63.0	58.5	45.9	50.2	24.8	53.4	64.6	61.4	67.8	43.2	52.0	55.7	33.2	37.5	26.1		32.5	41.0
79.1	76.7	88.2	84.5	90.0	81.8	72.7	88.5	88.4	85.9	85.3	86.5	94.1	84.8	92.6		87.9	90.0
9.9	9.2	12.3	10.4	11.7	10.3	9.0	11.8	11.6	10.7	12.0	11.7	18.4	11.5	14.7		12.4	14.3
7.1	6.8	8.4	8.0	7.8	7.4	6.6	8.4	8.0	7.9	8.2	8.2	8.1	7.1	8.1		7.4	8.0
24.1	7.3	17.0	10.0	11.9	16.1	37.5	10.6	5.0	4.7	6.3	6.8	4.6	3.3	6.3		4.8	5.4
15.5	3.6	12.0	7.3	6.7	10.3	18.1	6.4	3.0	2.1	3.7	4.0	2.1	0.9	3.2		1.9	2.7
4.9	2.9	3.5	1.8	4.3	3.8	16.3	1.3	0.3	0.9	1.3	1.1	1.5	1.4	1.7		1.6	1.4
2.0	0.1	0.5	0.4	0.5	1.0	1.1	0.6	0.0	0.9	0.3	0.4	0.4	0.9	0.9		0.9	0.5
1.7	0.6	1.0	0.4	0.5	1.1	2.0	2.3	1.8	0.9	1.0	1.4	0.7	0.2	0.5		0.3	0.9
67.6	84.4	76.4	79.4	80.2	75.5	54.6	80.5	86.1	83.3	83.7	83.4	87.1	89.1	84.0		86.7	85.7
26.2	49.4	59.9	59.5	48.2	42.6	22.8	67.5	78.3	76.9	65.6	69.2	67.6	73.1	48.3		62.4	66.9
14.8	9.6	3.5	4.2	8.4	10.1	19.5	1.7	3.5	2.1	4.2	3.4	4.3	10.8	6.1		9.1	5.1
10.5	12.8	4.8	6.6	11.7	9.9	6.3	4.7	0.5	0.9	1.8	2.0	6.6	1.9	8.4		4.6	4.5
10.2	3.2	3.8	4.0	5.7	6.5	2.0	2.1	0.8	0.4	7.8	4.8	3.9	0.9	17.0		7.4	5.0
5.9	9.2	4.5	5.1	6.2	6.4	3.9	4.5	3.0	3.0	4.2	4.0	4.7	2.4	4.1		3.1	4.0
8.3	8.4	6.5	10.6	7.9	8.4	7.9	8.9	8.8	12.0	10.0	9.8	8.3	7.6	9.7		8.6	8.9
17.0	5.2	8.8	4.0	6.0	10.3	25.0	5.7	2.3	2.6	3.5	3.7	2.2	1.1	3.1		1.9	2.6
7.1	2.1	8.3	6.0	6.0	5.9	12.5	4.9	2.8	2.1	2.8	3.1	2.5	2.3	3.2		2.8	2.8
47.4	58.0	45.4	49.3	48.7	49.9	34.0	47.8	51.6	51.3	50.2	50.1	64.7	70.1	62.0		66.3	60.0
20.2	26.4	31.1	30.1	31.5	25.6	20.5	32.7	34.5	32.1	33.5	33.3	22.4	19.0	22.1		20.3	25.7
631	**415**	**181**	**223**	**204**	**1,654**	**6,111**	**225**	**205**	**120**	**627**	**1,177**	**1,775**	**649**	**404**		**1,060**	**4,012**
14.4	46.3	23.8	22.0	30.9	26.5	49.7	9.8	5.9	10.0	9.6	9.0	5.4	27.6	9.7		20.8	10.5
14.6	25.3	43.6	43.9	33.8	26.8	20.9	52.9	71.7	69.2	56.9	60.0	25.7	48.4	41.3		45.6	41.0
3.0	4.1	7.7	5.4	8.3	4.8	3.1	5.3	3.9	0.8	4.8	4.3	36.7	3.9	14.9		8.0	19.6
51.3	6.5	4.4	2.7	6.4	22.9	10.7	1.3	1.0	0.8	6.2	3.8	7.2	2.3	12.6		6.3	6.0
2.7	3.6	3.3	2.7	3.4	3.1	2.8	4.4	1.5	2.5	4.8	3.9	2.0	2.5	7.7		4.4	3.2
19.0	26.3	34.3	37.2	27.5	26.0	20.5	36.9	39.0	50.0	30.9	35.4	15.0	43.5	25.5		36.4	26.7
14.4	22.2	14.9	14.3	17.2	16.7	14.4	8.4	5.9	9.2	11.2	9.5	11.2	24.0	15.1		20.5	13.2
9.8	5.3	3.9	5.4	4.9	6.8	10.0	4.4	9.8	6.7	7.8	7.4	7.4	4.0	8.9		5.9	7.0
7.3	4.6	3.3	2.7	4.9	5.3	6.9	2.2	1.5	0.8	6.4	4.2	6.8	3.1	5.9		4.2	5.3
2.7	2.4	1.1	2.2	3.4	2.5	1.9	0.0	3.4	0.8	5.1	3.4	1.8	0.9	3.2		1.9	2.3
32.8	25.1	25.4	14.8	25.0	26.7	33.5	21.8	24.4	15.8	20.9	21.2	34.8	9.1	27.5		16.2	25.9
13.9	14.2	17.1	23.3	17.2	16.0	12.8	26.2	16.1	16.7	17.7	18.9	22.9	15.4	13.9		14.8	19.6
5.1	3.1	8.8	6.3	6.4	5.3	5.8	12.0	5.9	6.7	5.6	7.0	5.4	5.4	3.2		4.5	5.6
17.0	10.1	9.4	15.7	8.3	13.2	12.3	12.4	14.6	16.7	11.8	12.9	12.9	13.3	10.9		12.4	12.8
13.0	9.2	12.7	10.8	11.8	11.5	11.4	14.2	17.1	15.0	14.8	15.1	14.3	12.3	10.6		11.8	13.9
9.5	3.9	6.6	8.1	4.9	7.0	6.0	7.6	6.3	8.3	8.1	7.7	8.8	6.9	6.2		6.6	7.9
14.1	22.4	13.3	13.9	13.7	16.0	13.3	16.0	15.6	7.5	15.9	15.0	15.5	14.8	14.9		15.0	15.2
4.0	1.0	1.7	2.7	4.9	2.9	3.4	3.6	3.9	5.0	3.5	3.7	4.8	5.5	5.2		5.4	4.6
8.7	4.3	5.5	3.6	7.4	6.4	6.3	8.4	9.8	9.2	9.4	9.3	9.4	8.2	15.1		10.8	9.7
5.1	1.4	5.5	4.0	4.4	4.0	5.0	2.2	3.9	5.0	3.3	3.4	5.5	3.5	3.7		3.6	4.4
12.7	6.7	11.0	12.6	12.3	10.9	11.9	9.3	8.3	12.5	12.3	11.0	10.9	7.1	6.2		6.7	9.8
6.0	1.4	2.8	2.2	4.4	3.8	3.2	4.0	3.9	1.7	2.7	3.1	3.7	2.8	3.5		3.1	3.3
4.4	36.4	22.1	19.7	21.1	18.5	20.9	9.8	10.2	12.5	12.1	11.4	8.6	20.0	20.5		20.1	12.4
0.5	0.0	0.6	0.4	0.5	0.4	0.4	0.4	0.5	0.0	0.3	0.3	0.3	0.2	0.0		0.1	0.3

§Statistics are not presented for this group because too few records contained the specific data.

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APPENDIX TABLE A-3 (Continued)

Doctorates: Women

		Total	Physics and Astronomy	Chemistry	Earth, Atmos. and Marine Sci.	Mathematics	Computer Sciences	PHYSICAL SCIENCES	ENGINEERING	Biochemistry	Other Biosciences	Biosciences Subtotal	Health Sciences	Agricultural Sciences	LIFE SCIENCES
Total Women		**15,108**	**194**	**585**	**164**	**264**	**137**	**1,344**	**521**	**318**	**1,732**	**2,050**	**777**	**259**	**3,086**
Women as a Percent of Total Doctorates	%	38.0	12.6	27.3	20.8	23.0	15.6	20.7	9.1	37.6	40.8	40.3	64.7	23.4	41.7
U.S. Citizenship	%	78.8	46.9	60.5	69.5	47.0	59.9	56.9	56.6	64.2	71.7	70.5	83.9	52.5	72.4
Non-U.S., Permanent Visa		5.2	13.4	8.4	4.9	15.2	19.7	11.2	10.0	6.3	6.6	6.6	3.3	5.0	5.6
Non-U.S., Temporary Visa		13.7	38.7	29.4	20.7	36.0	19.0	29.9	30.9	28.9	19.9	21.3	9.8	40.5	20.0
Unknown		2.3	1.0	1.7	4.9	1.9	1.5	2.0	2.5	0.6	1.7	1.6	3.0	1.9	1.9
Married	%	52.7	52.6	50.6	47.6	54.5	59.1	52.2	55.3	51.6	53.1	52.8	55.5	50.2	53.3
Not Married		38.3	37.1	41.4	42.1	39.0	26.3	38.8	37.8	42.5	40.0	40.4	35.0	41.7	39.1
Unknown		9.0	10.3	8.0	10.4	6.4	14.6	9.0	6.9	6.0	6.9	6.8	9.5	8.1	7.6
Median Age at Doct.	Yrs	36.1	30.8	29.3	32.5	30.8	34.3	30.5	30.2	30.1	31.4	31.1	40.0	33.7	32.6
Percent with Bacc. in Same Field as Doctorate	%	51.5	83.0	79.0	51.2	79.2	29.9	71.2	70.6	24.8	58.8	53.5	58.4	44.0	54.0
Percent with Masters	%	80.5	74.2	44.4	79.3	79.9	84.7	64.1	85.4	32.4	49.5	46.8	89.6	89.2	61.1
Median Time Lapse from Bacc. to Doct.															
Total Time	Yrs	12.2	8.4	6.9	9.9	8.4	11.2	8.1	8.0	7.7	8.7	8.5	15.3	10.5	9.7
Registered Time		7.5	7.0	5.6	7.8	6.8	7.9	6.5	6.4	6.3	6.8	6.7	7.8	6.9	6.9
Postdoctoral Study Plans	%	22.5	57.2	47.5	43.3	25.0	16.8	40.8	27.1	81.4	72.7	74.1	14.5	32.4	55.6
Fellowship		13.6	25.8	23.9	20.7	12.5	8.0	19.9	11.9	56.0	46.8	48.2	8.4	13.5	35.3
Research Assoc.		6.6	29.9	22.2	22.0	10.6	8.8	19.6	13.2	20.8	20.4	20.4	3.9	17.4	16.0
Traineeship		0.8	0.5	0.7	0.0	0.8	0.0	0.5	0.6	1.6	1.9	1.9	0.4	1.5	1.5
Other Study		1.5	1.0	0.7	0.6	1.1	0.0	0.7	1.3	3.1	3.6	3.6	1.9	0.0	2.9
Planned Employment After Doctorate	%	69.7	30.9	45.0	47.0	69.7	75.2	51.1	65.6	15.1	22.6	21.4	78.0	58.3	38.8
Educ. Institution*		46.7	11.9	10.9	17.7	53.8	47.4	24.0	23.0	6.9	10.8	10.2	51.2	26.3	21.9
Industry/Business		8.6	10.3	28.7	11.6	8.7	22.6	19.4	30.5	6.0	5.1	5.3	6.6	13.1	6.3
Government		4.6	4.1	1.2	11.6	1.9	0.7	3.0	5.6	0.9	2.9	2.6	8.4	8.1	4.5
Nonprofit		4.2	0.5	0.7	0.0	1.1	0.7	0.7	1.0	0.6	1.2	1.1	7.7	2.7	2.9
Other & Unknown		5.6	4.1	3.4	6.1	4.2	3.6	4.0	5.6	0.6	2.5	2.2	4.1	8.1	3.2
Postdoc. Plans Unknown	%	7.8	11.9	7.5	9.8	5.3	8.0	8.0	7.3	3.5	4.7	4.5	7.5	9.3	5.6
Definite Postdoc. Study	%	15.5	39.7	33.5	25.0	16.3	11.7	27.8	14.6	61.6	55.9	56.8	8.6	17.0	41.3
Seeking Postdoc. Study		7.0	17.5	14.0	18.3	8.7	5.1	13.1	12.5	19.8	16.9	17.3	5.9	15.4	14.3
Definite Employment		47.1	13.4	29.7	27.4	44.7	51.1	32.2	36.7	9.1	14.6	13.8	57.1	33.6	26.3
Seeking Employment		22.6	17.5	15.2	19.5	25.0	24.1	18.9	29.0	6.0	8.0	7.7	20.8	24.7	12.4
Employment Commitments After Doctorate		**7,112**	**26**	**174**	**45**	**118**	**70**	**433**	**191**	**29**	**253**	**282**	**444**	**87**	**813**
Primary Activity†															
R & D	%	17.0	57.7	64.9	42.2	28.0	48.6	49.4	57.1	48.3	41.5	42.2	27.3	48.3	34.7
Teaching		39.7	30.8	17.2	26.7	54.2	32.9	31.6	18.3	24.1	24.5	24.5	42.1	23.0	33.9
Administration		13.9	0.0	1.1	0.0	0.8	1.4	0.9	1.0	3.4	3.2	3.2	12.8	6.9	8.9
Prof. Services		12.3	0.0	3.4	13.3	3.4	2.9	4.2	5.2	10.3	11.1	11.0	7.9	10.3	9.2
Other		2.3	7.7	2.3	4.4	1.7	0.0	2.3	3.1	0.0	5.5	5.0	0.9	4.6	2.7
Secondary Acitivty															
R & D	%	28.2	19.2	12.6	31.1	50.0	32.9	28.4	19.9	20.7	21.3	21.3	34.5	23.0	28.7
Teaching		11.5	3.8	4.6	4.4	13.6	20.0	9.5	15.2	6.9	11.9	11.3	15.3	11.5	13.5
Administration		7.2	7.7	14.9	6.7	5.1	1.4	8.8	5.8	10.3	11.1	11.0	7.7	6.9	8.7
Prof. Services		7.3	11.5	4.0	4.4	1.7	2.9	3.7	4.7	3.4	8.3	7.8	10.6	6.9	9.2
Other		2.7	11.5	2.3	2.2	1.7	0.0	2.3	4.2	0.0	2.0	1.8	3.6	2.3	2.8
No Secondary Activity		28.5	42.3	50.6	37.8	16.1	28.6	35.8	35.1	44.8	31.2	32.6	19.4	42.5	26.4
Activity(ies) Unknown	%	14.6	3.8	10.9	13.3	11.9	14.3	11.5	15.2	13.8	14.2	14.2	9.0	6.9	10.6
Region of Employment After Doctorate‡															
New England	%	5.9	0.0	4.6	6.7	6.8	5.7	5.3	8.9	3.4	6.7	6.4	4.1	4.6	4.9
Middle Atlantic		14.6	7.7	21.3	8.9	12.7	25.7	17.6	15.7	10.3	14.2	13.8	12.4	5.7	12.2
East No. Central		13.5	15.4	16.1	2.2	15.3	17.1	14.5	11.5	13.8	10.7	11.0	16.4	6.9	13.5
West No. Central		7.1	3.8	8.0	4.4	5.9	11.4	7.4	8.4	0.0	2.4	2.1	5.0	2.3	3.7
South Atlantic		17.2	11.5	10.9	17.8	19.5	5.7	13.2	11.5	6.9	17.0	16.0	18.7	18.4	17.7
East So. Central		5.0	7.7	4.0	0.0	5.9	2.9	4.2	5.8	0.0	5.9	5.3	6.5	5.7	6.0
West So. Central		9.2	7.7	6.3	17.8	5.1	10.0	7.9	9.4	6.9	10.3	9.9	11.7	4.6	10.3
Mountain		4.7	15.4	1.7	8.9	4.2	5.7	4.6	4.7	6.9	4.0	4.3	4.5	5.7	4.6
Pacific & Insular		11.0	7.7	14.9	22.2	7.6	5.7	11.8	9.9	24.1	12.6	13.8	9.0	14.9	11.3
U.S., Region Unknown		4.8	7.7	5.7	2.2	2.5	4.3	4.4	2.1	10.3	4.3	5.0	3.6	3.4	4.1
Foreign		6.8	15.4	6.3	8.9	14.4	5.7	9.2	11.5	17.2	11.9	12.4	7.9	27.6	11.6
Region Unknown		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.2	0.0	0.1

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Physical Sciences includes Mathematics and Computer Sciences, as well as Physics/Astronomy, Chemistry, and Earth/Atmospheric/Marine Sciences. Refer also to the explanatory note about this table in front of Appendix A.

*Includes 2-year, 4-year, and foreign colleges and universities, medical schools, and elementary/secondary schools.

†Includes only recipients with definite employment plans. Revisions to the survey form in 1990 appear to have resulted in a higher rate of nonresponse to the item on work activity than in previous years. Among women, the nonresponse rate in 1993 was 14.6% compared to 5.3% in 1989.

‡Includes only recipients with definite employment plans. See Table A-3 explanatory note for regional definitions.

APPENDIX TABLE A-3 (Continued)

Psychology	Economics	Anthropology and Sociology	Political Sci./ Internat'l Rel.	Other Social Sciences	SOCIAL SCI. INCL. PSYCH.	TOTAL SCIENCES & ENGINEERING	History	Eng. and Amer. Lang. and Lit.	Foreign Lang. and Lit.	Other Humanities	HUMANITIES	EDUCATION	Business and Management	Other Professional Fields	Other Fields§	PROFESSIONAL/ OTHER FIELDS	TOTAL NONSCIENCES
2,089	**214**	**456**	**157**	**313**	**3,229**	**8,180**	**257**	**551**	**343**	**979**	**2,130**	**3,904**	**354**	**533**	**7**	**894**	**6,928**
61.1	23.0	53.3	25.8	42.8	49.3	31.3	35.3	58.1	59.4	43.9	47.5	58.7	27.7	45.0	25.9	35.9	50.9
89.4	51.4	78.3	72.6	76.7	83.2	73.1	86.4	88.6	70.0	77.5	80.2	89.3	80.2	81.6		81.0	85.5
3.3	9.3	7.5	5.7	6.4	4.7	6.5	3.5	3.1	15.5	6.4	6.7	2.1	4.5	3.9		4.3	3.8
4.0	37.9	12.9	15.9	15.3	9.2	18.1	8.6	6.9	12.5	13.9	11.2	6.2	12.7	11.8		12.1	8.5
3.3	1.4	1.3	5.7	1.6	2.8	2.3	1.6	1.5	2.0	2.1	1.9	2.4	2.5	2.6		2.7	2.3
47.7	46.7	51.8	47.1	53.7	48.8	51.4	51.4	47.5	49.6	50.6	49.7	57.1	55.9	50.1		52.1	54.2
42.2	42.1	41.4	38.9	38.0	41.5	40.0	40.1	43.0	45.2	41.3	42.2	33.1	35.0	38.3		37.1	36.4
10.1	11.2	6.8	14.0	8.3	9.7	8.6	8.6	9.4	5.2	8.2	8.1	9.9	9.0	11.6		10.7	9.4
33.9	30.5	37.2	34.1	38.4	34.4	32.6	35.9	36.8	35.3	35.6	35.8	43.6	37.6	40.6		39.0	41.0
60.2	62.6	49.6	47.1	16.0	53.9	57.8	53.7	65.7	58.3	52.9	57.2	40.3	34.5	26.3		29.3	44.1
78.7	72.4	90.1	79.6	91.4	81.2	71.1	87.9	89.3	89.2	88.3	88.6	93.8	82.2	93.4		88.8	91.6
10.0	8.3	13.0	11.3	14.0	10.7	9.6	12.5	12.3	11.3	12.0	12.0	19.7	13.1	16.9		15.2	17.1
7.2	6.7	9.2	8.0	7.9	7.5	7.0	8.9	8.3	8.4	8.3	8.4	8.2	7.4	7.9		7.7	8.2
24.6	7.5	17.1	8.9	10.9	20.3	37.4	8.9	6.5	7.0	8.4	7.7	3.7	1.1	4.5		3.2	4.9
17.7	4.7	12.1	5.7	5.8	14.3	23.0	6.2	2.9	3.5	4.7	4.2	1.6	0.6	2.6		1.8	2.4
3.2	2.3	3.9	1.3	4.5	3.3	11.4	1.2	0.5	1.2	1.1	1.0	1.1	0.6	0.6		0.7	1.0
2.3	0.0	0.0	1.3	0.0	1.6	1.3	0.0	0.4	0.6	0.3	0.3	0.3	0.0	0.8		0.4	0.3
1.4	0.5	1.1	0.6	0.6	1.2	1.8	1.6	2.7	1.7	2.2	2.2	0.8	0.0	0.6		0.3	1.2
66.2	86.0	77.2	77.7	80.5	71.0	55.2	84.8	86.0	85.7	84.1	84.9	87.7	91.2	85.2		87.5	86.8
25.8	52.3	54.4	64.3	53.0	36.1	27.9	68.5	77.7	75.8	67.8	71.7	67.9	78.8	59.5		67.1	69.0
13.6	7.0	6.4	5.1	6.4	11.0	11.8	3.9	2.7	2.6	5.1	3.9	4.8	6.5	6.9		6.7	4.8
7.3	10.3	3.9	5.7	4.8	6.7	5.2	1.9	0.4	0.3	1.0	0.8	5.2	2.3	6.4		4.7	3.8
11.6	3.7	4.6	1.9	6.4	9.1	4.9	3.1	0.2	0.9	3.8	2.3	3.7	0.6	6.6		4.1	3.3
7.9	12.6	7.9	0.6	9.9	8.0	5.4	7.4	5.1	6.1	6.3	6.1	6.1	3.1	5.8		4.8	5.9
9.2	6.5	5.7	13.4	8.6	8.7	7.3	6.2	7.4	7.3	7.6	7.3	8.6	7.6	10.3		9.3	8.3
17.3	6.1	9.2	5.1	6.1	13.8	26.5	4.7	3.3	3.5	4.2	3.9	1.7	0.6	2.8		1.9	2.4
7.3	1.4	7.9	3.8	4.8	6.6	10.9	4.3	3.3	3.5	4.2	3.8	1.9	0.6	1.7		1.3	2.4
42.5	60.7	45.0	60.5	52.7	45.9	35.7	53.7	52.8	55.1	50.5	52.2	63.8	73.7	61.5		66.1	60.5
23.6	25.2	32.2	17.2	27.8	25.1	19.5	31.1	33.2	30.6	33.6	32.7	23.9	17.5	23.6		21.4	26.3
888	**130**	**205**	**95**	**165**	**1,483**	**2,920**	**138**	**291**	**189**	**494**	**1,112**	**2,489**	**261**	**328**		**591**	**4,192**
12.3	45.4	30.2	15.8	24.8	19.3	30.5	9.4	4.1	7.9	6.3	6.4	6.0	25.3	10.4		17.1	7.7
17.7	34.6	42.9	57.9	37.6	27.4	29.3	66.7	73.2	71.4	70.4	70.9	35.2	57.5	47.3		51.8	47.0
4.7	2.3	4.4	6.3	7.3	4.9	5.1	3.6	4.8	4.2	2.8	3.7	29.5	3.8	17.1		11.2	20.1
50.3	3.8	6.8	3.2	9.7	32.7	20.1	1.4	1.4	1.6	3.0	2.2	8.8	1.9	12.2		7.6	6.9
2.7	3.8	2.9	2.1	0.6	2.6	2.6	3.6	1.4	0.5	3.6	2.5	2.3	0.8	0.9		0.8	2.2
23.1	34.6	33.2	49.5	26.1	27.5	27.5	47.1	43.3	55.0	40.5	44.5	18.0	50.6	39.9		44.7	28.8
12.4	21.5	17.1	12.6	16.4	14.3	13.4	4.3	6.2	7.4	7.3	6.7	10.4	22.2	11.0		15.9	10.2
7.1	3.1	4.9	3.2	9.1	6.4	7.4	6.5	6.2	5.3	5.7	5.8	8.5	2.7	4.6		3.7	7.1
7.9	4.6	2.9	3.2	6.7	6.5	6.7	2.2	3.8	1.1	4.9	3.6	9.9	5.0	6.4		5.8	7.6
3.9	2.3	3.4	0.0	1.2	3.2	3.0	0.7	1.7	0.5	6.1	3.3	2.4	0.8	0.9		0.8	2.4
33.3	23.8	25.9	16.8	20.6	29.0	29.7	23.9	23.7	16.4	21.9	21.7	32.7	8.0	25.0		17.6	27.7
12.3	10.0	12.7	14.7	20.0	13.1	12.3	15.2	15.1	14.3	13.8	14.4	18.2	10.7	12.2		11.5	16.2
6.0	6.9	10.2	6.3	3.0	6.3	6.0	10.9	4.8	9.0	6.9	7.2	5.1	5.7	6.7		6.3	5.8
20.2	7.7	12.7	13.7	13.9	16.9	15.6	16.7	16.8	21.7	16.0	17.3	12.3	10.7	18.0		14.7	14.0
12.8	6.9	16.6	14.7	14.5	13.1	13.4	13.8	15.1	14.8	12.8	13.8	13.2	14.9	14.6		14.9	13.6
7.2	1.5	6.8	5.3	10.3	6.9	6.2	3.6	6.5	7.4	7.3	6.7	8.4	7.3	6.7		6.9	7.7
15.3	28.5	12.7	20.0	18.2	16.7	16.1	18.1	18.2	14.3	15.2	16.2	19.5	16.9	12.8		14.7	18.0
3.2	2.3	2.9	4.2	2.4	3.0	4.2	8.0	6.9	4.8	4.7	5.7	5.8	3.8	4.3		4.1	5.5
7.3	5.4	3.4	6.3	5.5	6.3	7.9	7.2	6.9	4.8	7.7	6.9	11.0	14.9	11.6		13.0	10.2
3.8	2.3	6.8	7.4	7.3	4.7	4.7	3.6	4.8	4.8	5.5	4.9	4.6	5.7	4.0		4.7	4.7
15.1	9.2	11.7	11.6	6.7	12.9	12.1	10.1	9.6	9.5	10.3	10.0	10.4	8.4	10.7		9.6	10.2
6.2	3.8	3.4	1.1	4.2	5.1	4.5	2.9	5.5	2.6	3.0	3.6	6.0	3.1	4.3		3.7	5.0
2.8	25.4	12.2	9.5	13.9	7.8	9.3	5.1	4.5	5.3	10.5	7.4	3.6	8.0	6.1		6.9	5.1
0.1	0.0	0.5	0.0	0.0	0.1	0.1	0.0	0.3	1.1	0.2	0.4	0.2	0.4	0.3		0.3	0.2

§Statistics are not presented for this group because too few records contained the specific data.

SOURCE: National Research Council, Survey of Earned Doctorates.

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APPENDIX TABLE A-4 Statistical Profile of Doctorate Recipients, by Race/Ethnicity and Citizenship, 1993

		Total				Native American	Asian				Black			
				Non-U.S.					Non-U.S.				Non-U.S.	
		Total*	U.S.	Perm.	Temp.	Total	Total*	U.S.	Perm.	Temp.	Total*	U.S.	Perm.	Temp.
Total Number		**39,754**	**26,386**	**2,250**	**9,923**	**120**	**8,653**	**891**	**1,118**	**6,595**	**1,606**	**1,106**	**169**	**319**
Male	%	62.0	54.9	64.9	79.2	50.8	76.3	62.2	64.9	80.2	52.2	39.8	81.7	78.4
Female		38.0	45.1	35.1	20.8	49.2	23.7	37.8	35.1	19.8	47.8	60.2	18.3	21.6
Doctoral Field														
Physical Sciences	%	16.3	13.2	20.2	23.8	9.2	24.3	20.4	23.3	25.0	5.5	3.7	10.7	9.4
Engineering		14.3	8.4	20.7	28.0	1.7	30.0	24.5	27.5	31.2	5.1	3.7	5.3	9.7
Life Sciences		18.6	18.3	18.6	20.0	12.5	20.5	24.6	20.8	20.0	15.6	11.0	17.8	30.4
Social Sciences		16.5	18.7	14.4	10.8	15.8	9.6	11.7	9.4	9.3	18.7	18.5	22.5	17.2
Humanities		11.3	13.3	11.9	5.7	10.8	4.4	6.7	6.5	3.7	9.5	8.6	10.1	12.5
Education		16.7	21.8	7.8	5.5	41.7	5.2	9.2	5.2	4.7	37.8	46.3	24.3	15.4
Professional/Other		6.3	6.3	6.4	6.1	8.3	6.0	2.9	7.4	6.1	7.8	8.1	9.5	5.3
Median Age at Doct.	Yrs	34.1	35.1	33.9	32.6	39.9	32.7	31.3	33.6	32.6	39.5	41.0	37.5	36.9
Median Time Lapse from Bacc. to Doct.														
Total Time	Yrs	10.5	11.5	10.3	9.7	13.8	9.8	8.4	10.4	9.8	14.1	16.5	11.1	11.4
Registered Time		7.1	7.3	7.4	6.6	6.8	6.8	6.8	7.4	6.7	7.4	7.9	7.2	6.6
Graduate School Support†														
GI Bill	%	1.0	1.5	0.1	0.0	0.8	0.1	1.1	0.0	0.0	1.4	2.0	0.0	0.0
Other Federal‡		9.6	13.0	5.0	3.0	18.3	3.4	17.1	3.2	1.6	13.4	13.2	5.9	18.2
State Government		1.0	1.3	0.4	0.5	2.5	0.4	0.8	0.3	0.4	2.1	2.7	0.6	0.6
Foreign Government		4.1	0.5	6.0	13.8	0.8	7.0	0.2	3.0	8.6	4.9	0.1	7.7	19.7
National Fellow (nonfed.)		4.9	5.6	5.0	3.5	10.0	3.0	7.1	3.2	2.5	11.1	10.8	6.5	15.0
Univ. Teaching Asst.	%	48.8	49.1	55.5	52.3	36.7	52.0	47.1	53.3	52.7	32.8	28.9	45.0	40.4
Univ. Research Asst.‡		49.2	44.4	58.0	65.7	34.2	69.1	61.4	66.4	70.9	30.1	25.0	41.4	42.0
Other University		24.6	28.1	23.9	18.4	21.7	18.5	25.8	20.5	17.2	29.6	33.4	24.9	19.7
Business/Employer		6.4	8.3	3.6	2.6	5.8	2.7	7.5	3.8	1.9	5.6	6.8	3.6	2.8
Self/Family Sources		69.0	80.7	63.5	47.0	88.3	49.7	70.4	55.7	46.2	70.6	80.3	66.3	41.4
GSL (Stafford) Loan	%	21.4	31.2	12.0	0.2	28.3	3.1	22.8	5.5	0.1	28.6	35.6	37.3	0.6
Other Loans		8.1	11.2	5.4	1.4	10.8	1.6	8.8	2.2	0.6	10.9	14.2	8.3	1.3
Other Sources		4.1	4.4	3.4	3.8	6.7	2.6	3.1	2.7	2.5	4.0	4.1	1.8	5.3
Unknown Sources		6.1	3.2	2.9	3.6	4.2	3.0	2.1	3.3	2.6	5.0	5.3	1.2	4.4
Postdoctoral Plans														
Postdoctoral Study	%	26.4	23.3	30.3	36.8	14.2	38.1	37.1	31.9	39.5	17.0	14.5	21.9	23.8
Planned Employment	%	65.6	71.9	63.0	56.8	80.0	55.7	58.4	60.2	54.8	75.8	78.5	71.6	69.9
Educ. Institution§		39.3	44.2	35.4	31.9	56.7	28.9	24.6	29.9	29.5	52.6	56.7	45.0	43.3
Industry/Business		12.9	12.7	17.2	14.0	7.5	17.3	22.8	21.4	15.9	6.2	5.5	11.2	6.0
Government		5.4	6.0	2.5	4.9	11.7	4.1	5.3	2.0	4.3	7.4	7.3	6.5	7.8
Nonprofit		3.4	4.4	2.3	1.2	2.5	1.2	2.2	1.8	1.0	3.1	3.5	3.0	1.9
Other & Unknown		4.6	4.6	5.6	4.8	1.7	4.2	3.5	5.2	4.1	6.6	5.4	5.9	11.0
Postdoc. Plans Unknown	%	8.0	4.8	6.7	6.4	5.8	6.2	4.5	7.9	5.7	7.2	7.1	6.5	6.3
Definite Postdoc. Study	%	17.6	17.4	16.4	20.6	9.2	21.1	26.3	16.8	21.2	9.8	9.9	7.7	11.0
Seeking Postdoc. Study		8.8	5.9	13.9	16.2	5.0	17.0	10.9	15.1	18.2	7.2	4.5	14.2	12.9
Definite Employment		43.4	50.5	31.8	32.0	54.2	29.7	37.3	29.1	28.9	48.0	53.3	27.2	41.4
Seeking Employment		22.2	21.5	31.2	24.8	25.8	26.0	21.1	31.1	25.9	27.8	25.2	44.4	28.5
Employment Location After Doctorate ‖		**17,235**	**13,321**	**716**	**3,179**	**65**	**2,569**	**332**	**325**	**1,906**	**771**	**589**	**46**	**132**
U.S.	%	86.6	97.6	83.0	41.7	98.5	57.3	91.3	84.0	47.0	85.7	98.8	76.1	32.6
Foreign		13.1	2.2	16.8	57.6	1.5	42.0	8.4	15.4	52.3	13.6	0.7	23.9	65.9
Unknown		0.3	0.2	0.3	0.7	0.0	0.7	0.3	0.6	0.8	0.6	0.5	0.0	1.5

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A for a discussion of past changes in the survey question on race/ethnicity.

*Includes individuals who did not report their citizenship at time of doctorate.
†In this table a recipient counts once in each source category from which he or she received support. Since students indicate multiple sources of support, the vertical percentages sum to more than 100 percent. (Data on the "primary" source of support for doctorate recipients are presented in the body of the report.)
‡Because federal support obtained through the university cannot always be determined, no distinction is made between federal and university research assistants in this table. Both types of support are grouped under "University Research Assistant." Federal loans are counted in the categories for loans.
§Includes 2-year, 4-year, and foreign colleges and universities, medical schools, and elementary/secondary schools.
‖ Includes only recipients with definite employment plans.

APPENDIX TABLE A-4 (Continued)

White				Puerto Rican	Mexican American				Other Hispanic				Unknown Race		
		Non-U.S.					Non-U.S.				Non-U.S.				
Total*	U.S.	Perm.	Temp.	Total	Total*	U.S.	Perm.	Temp.	Total*	U.S.	Perm.	Temp.	Total*	U.S.	Non-U.S.
26,386	**23,202**	**791**	**2,293**	**238**	**281**	**225**	**22**	**34**	**910**	**371**	**116**	**419**	**1,560**	**234**	**296**
57.3	55.3	60.6	76.4	51.7	56.6	51.6	68.2	82.4	64.8	49.3	67.2	78.3	73.8	73.5	80.1
42.7	44.7	39.4	23.6	48.3	43.4	48.4	31.8	17.6	35.2	50.7	32.8	21.7	26.2	26.5	19.9
14.4	13.4	17.7	23.4	8.8	8.5	5.3	31.8	14.7	17.3	15.1	18.1	19.1	18.7	18.4	23.6
9.8	8.1	16.9	24.4	4.2	6.0	4.4	9.1	14.7	12.6	9.7	6.0	17.2	18.0	8.5	22.0
18.2	18.5	15.4	16.5	16.8	19.2	13.8	22.7	52.9	22.3	14.8	23.3	28.9	15.8	19.2	19.3
18.4	18.9	17.7	13.2	18.1	22.4	24.4	27.3	5.9	19.6	22.6	21.6	16.0	16.2	15.8	14.5
13.5	13.7	18.7	9.8	16.0	13.5	15.6	4.5	5.9	13.6	15.4	20.7	10.0	11.8	17.5	7.8
19.3	21.0	8.5	6.2	31.5	24.9	30.2	4.5	2.9	10.4	18.3	6.9	4.5	12.8	12.8	8.4
6.3	6.4	5.1	6.5	4.6	5.3	6.2	0.0	2.9	4.2	4.0	3.4	4.3	6.7	7.7	4.4
34.5	35.0	33.8	31.7	37.1	36.2	37.0	33.3	35.5	34.6	34.5	34.6	34.7	33.8	34.9	33.4
11.0	11.4	9.9	8.5	13.9	12.1	12.8	9.5	10.4	10.4	10.7	10.3	10.3	10.1	10.0	10.0
7.2	7.3	7.2	6.3	7.9	7.6	7.7	7.8	6.3	6.9	7.5	7.3	6.4	7.0	7.0	6.9
1.4	1.6	0.3	0.0	0.4	2.1	2.7	0.0	0.0	0.4	0.8	0.9	0.0	0.1	0.4	0.0
11.7	12.7	6.6	3.7	16.4	16.0	18.2	9.1	5.9	11.9	15.4	9.5	9.5	2.2	9.4	3.7
1.1	1.2	0.4	0.5	5.0	2.5	2.7	4.5	0.0	1.1	0.8	1.7	1.2	0.3	0.9	1.0
2.7	0.5	8.5	23.4	0.4	6.8	0.4	18.2	41.2	16.2	0.3	10.3	32.0	3.7	1.7	17.9
5.2	5.2	6.7	4.7	11.3	10.0	12.0	0.0	2.9	7.0	6.5	11.2	6.4	1.0	4.3	1.7
51.1	50.5	60.8	56.1	38.2	43.4	43.1	63.6	32.4	48.4	47.2	58.6	47.0	12.5	37.2	35.8
46.4	45.1	52.2	59.3	28.6	38.8	34.2	63.6	52.9	47.7	42.6	45.7	53.2	12.9	35.0	40.2
27.3	27.9	27.3	22.0	36.6	32.7	34.2	31.8	23.5	24.9	29.1	29.3	20.3	4.4	14.5	11.1
8.0	8.6	3.5	4.2	7.1	4.6	4.9	4.5	2.9	5.1	6.7	2.6	4.3	1.0	3.4	2.4
78.5	81.5	75.0	51.9	75.2	76.2	82.7	77.3	32.4	60.9	76.0	62.1	47.7	13.7	47.9	33.4
28.0	31.3	14.0	0.4	40.3	33.1	37.8	36.4	0.0	16.7	33.2	22.4	0.7	2.2	14.5	0.3
10.4	11.1	8.5	3.5	12.2	13.2	14.7	13.6	2.9	8.0	13.7	10.3	2.4	1.1	5.6	1.4
4.7	4.5	4.0	6.8	5.9	3.2	3.1	0.0	5.9	7.0	4.9	9.5	8.4	0.8	2.1	2.7
3.1	2.8	2.1	2.9	2.9	2.5	2.2	0.0	5.9	4.0	3.5	1.7	4.1	77.5	38.5	31.1
24.3	23.3	30.3	33.9	20.6	23.1	21.3	31.8	29.4	27.5	25.3	29.3	29.1	7.8	19.2	25.0
71.0	72.4	65.0	61.1	76.1	73.3	75.6	68.2	61.8	67.4	68.2	67.2	67.3	13.0	38.5	37.5
43.5	44.4	40.5	36.4	51.3	51.6	53.8	40.9	44.1	40.3	38.0	40.5	42.7	7.5	21.8	21.6
12.8	12.9	13.7	12.0	10.9	7.8	7.6	18.2	2.9	10.9	13.7	13.8	7.6	2.1	6.4	5.7
5.8	5.9	2.4	5.3	7.6	5.0	5.3	0.0	5.9	7.9	8.1	3.4	9.1	1.4	3.4	4.7
4.3	4.6	2.5	1.4	0.4	4.3	4.0	4.5	5.9	3.2	3.5	4.3	2.6	0.4	1.7	1.0
4.7	4.6	5.9	6.0	5.9	4.6	4.9	4.5	2.9	5.1	4.9	5.2	5.3	1.6	5.1	4.4
4.7	4.3	4.7	5.0	3.4	3.6	3.1	0.0	8.8	5.2	6.5	3.8	3.6	79.2	42.3	37.5
17.8	17.5	17.8	21.3	11.8	16.4	16.0	13.6	20.6	18.6	18.9	19.8	18.1	4.6	14.5	12.2
6.6	5.8	12.5	12.6	8.8	6.8	5.3	18.2	8.8	8.9	6.5	9.5	11.0	3.2	4.7	12.8
49.4	51.2	36.0	38.1	55.0	49.8	51.1	40.9	47.1	44.2	43.9	37.1	46.8	7.3	20.9	21.3
21.6	21.2	29.0	23.0	21.0	23.5	24.4	27.3	14.7	23.2	24.3	30.2	20.5	5.7	17.5	16.2
13,043	**11,878**	**285**	**873**	**131**	**140**	**115**	**9**	**16**	**402**	**163**	**43**	**196**	**114**	**49**	**63**
93.2	97.7	83.5	37.1	99.2	86.4	98.3	77.8	6.2	61.4	98.2	83.7	26.0	57.0	95.9	27.0
6.5	2.2	16.5	62.3	0.8	13.6	1.7	22.2	93.8	38.3	1.8	16.3	73.5	43.0	4.1	73.0
0.2	0.2	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.5	0.0	0.0	0.0

SOURCE: National Research Council, Survey of Earned Doctorates.

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APPENDIX TABLE A-5 Sources of Graduate School Support for Doctorate Recipients, by Broad Field and Gender, 1993

		Total		Physical Sciences		Engineering		Life Sciences		Social Sciences		Humanities		Education		Prof./Other Fields	
		Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Federal Fellow/ Trainee	N	1,209	1,143	160	55	95	37	674	686	195	250	56	58	16	41	13	16
	V*	5.2	8.0	3.3	4.3	2.0	7.4	16.6	23.4	6.3	8.3	2.6	2.8	0.6	1.1	0.9	1.9
	H*	100.0	100.0	13.2	4.8	7.9	3.2	55.7	60.0	16.1	21.9	4.6	5.1	1.3	3.6	1.1	1.4
GI Bill	N	323	89	32	3	34	2	28	25	66	39	35	2	89	14	39	4
	V	1.4	0.6	0.7	0.2	0.7	0.4	0.7	0.9	2.1	1.3	1.6	0.1	3.5	0.4	2.6	0.5
	H	100.0	100.0	9.9	3.4	10.5	2.2	8.7	28.1	20.4	43.8	10.8	2.2	27.6	15.7	12.1	4.5
Other Federal Support†	N	1,014	633	245	69	208	26	177	143	162	163	131	100	55	95	36	37
	V	4.4	4.4	5.0	5.4	4.3	5.2	4.3	4.9	5.3	5.4	6.0	4.9	2.2	2.6	2.4	4.4
	H	100.0	100.0	24.2	10.9	20.5	4.1	17.5	22.6	16.0	25.8	12.9	15.8	5.4	15.0	3.6	5.8
State Government	N	228	165	33	14	34	3	58	36	40	39	24	10	31	52	8	11
	V	1.0	1.2	0.7	1.1	0.7	0.6	1.4	1.2	1.3	1.3	1.1	0.5	1.2	1.4	0.5	1.3
	H	100.0	100.0	14.5	8.5	14.9	1.8	25.4	21.8	17.5	23.6	10.5	6.1	13.6	31.5	3.5	6.7
Foreign Government	N	1,281	350	197	39	389	13	264	75	165	82	89	71	87	46	90	24
	V	5.6	2.5	4.1	3.0	8.0	2.6	6.5	2.6	5.4	2.7	4.1	3.5	3.4	1.3	6.1	2.9
	H	100.0	100.0	15.4	11.1	30.4	3.7	20.6	21.4	12.9	23.4	6.9	20.3	6.8	13.1	7.0	6.9
National Fellow (nonfed.)	N	1,045	908	153	70	149	40	201	150	226	215	221	296	31	96	64	41
	V	4.5	6.4	3.1	5.5	3.1	8.0	4.9	5.1	7.3	7.1	10.1	14.4	1.2	2.6	4.3	4.9
	H	100.0	100.0	14.6	7.7	14.3	4.4	19.2	16.5	21.6	23.7	21.1	32.6	3.0	10.6	6.1	4.5
University Teaching Assistant	N	12,225	7,182	3,509	1,001	2,134	258	1,577	1,212	1,907	1,743	1,676	1,594	603	923	819	451
	V	53.0	50.3	72.2	78.3	44.0	51.6	38.7	41.3	62.0	57.6	76.8	77.8	23.6	25.3	55.3	53.9
	H	100.0	100.0	28.7	13.9	17.5	3.6	12.9	16.9	15.6	24.3	13.7	22.2	4.9	12.9	6.7	6.3
University Research Assistant†	N	13,362	6,202	3,739	975	3,817	394	2,763	1,841	1,458	1,476	456	442	488	720	641	354
	V	57.9	43.5	76.9	76.2	78.7	78.8	67.9	62.7	47.4	48.8	20.9	21.6	19.1	19.7	43.3	42.3
	H	100.0	100.0	28.0	15.7	28.6	6.4	20.7	29.7	10.9	23.8	3.4	7.1	3.7	11.6	4.8	5.7
University Fellow	N	3,812	2,516	763	204	551	92	617	471	717	630	730	710	174	246	260	163
	V	16.5	17.6	15.7	15.9	11.4	18.4	15.2	16.1	23.3	20.8	33.5	34.7	6.8	6.7	17.5	19.5
	H	100.0	100.0	20.0	8.1	14.5	3.7	16.2	18.7	18.8	25.0	19.2	28.2	4.6	9.8	6.8	6.5
Other University	N	2,095	2,050	225	87	243	39	340	302	432	543	386	405	313	546	156	128
	V	9.1	14.4	4.6	6.8	5.0	7.8	8.4	10.3	14.0	18.0	17.7	19.8	12.3	15.0	10.5	15.3
	H	100.0	100.0	10.7	4.2	11.6	1.9	16.2	14.7	20.6	26.5	18.4	19.8	14.9	26.6	7.4	6.2
Business/ Employer	N	1,558	980	284	67	417	36	150	158	174	163	104	107	287	376	142	73
	V	6.8	6.9	5.8	5.2	8.6	7.2	3.7	5.4	5.7	5.4	4.8	5.2	11.2	10.3	9.6	8.7
	H	100.0	100.0	18.2	6.8	26.8	3.7	9.6	16.1	11.2	16.6	6.7	10.9	18.4	38.4	9.1	7.4
Own Earnings	N	12,068	9,469	1,637	436	1,745	167	1,704	1,384	2,120	2,211	1,639	1,470	2,235	3,173	988	628
	V	52.3	66.4	33.7	34.1	36.0	33.4	41.9	47.2	68.9	73.1	75.1	71.7	87.5	87.0	66.7	75.0
	H	100.0	100.0	13.6	4.6	14.5	1.8	14.1	14.6	17.6	23.3	13.6	15.5	18.5	33.5	8.2	6.6
Spouse's Earnings	N	5,725	5,064	870	310	761	117	1,023	824	915	1,167	762	783	915	1,526	479	337
	V	24.8	35.5	17.9	24.2	15.7	23.4	25.1	28.1	29.7	38.6	34.9	38.2	35.8	41.8	32.3	40.3
	H	100.0	100.0	15.2	6.1	13.3	2.3	17.9	16.3	16.0	23.0	13.3	15.5	16.0	30.1	8.4	6.7
Family Support	N	6,089	3,570	1,043	273	1,439	87	970	635	1,050	995	754	709	409	662	424	209
	V	26.4	25.0	21.5	21.3	29.7	17.4	23.8	21.6	34.1	32.9	34.6	34.6	16.0	18.2	28.6	25.0
	H	100.0	100.0	17.1	7.6	23.6	2.4	15.9	17.8	17.2	27.9	12.4	19.9	6.7	18.5	7.0	5.9
Guaranteed Student Loan (Stafford)	N	4,746	3,776	640	187	414	55	835	593	1,187	1,287	763	715	573	705	334	234
	V	20.6	26.5	13.2	14.6	8.5	11.0	20.5	20.2	38.6	42.5	35.0	34.9	22.4	19.3	22.5	28.0
	H	100.0	100.0	13.5	5.0	8.7	1.5	17.6	15.7	25.0	34.1	16.1	18.9	12.1	18.7	7.0	6.2
Perkins Loan (NDSL)	N	1,169	1,024	121	31	83	10	151	124	371	409	245	220	119	176	79	54
	V	5.1	7.2	2.5	2.4	1.7	2.0	3.7	4.2	12.1	13.5	11.2	10.7	4.7	4.8	5.3	6.5
	H	100.0	100.0	10.4	3.0	7.1	1.0	12.9	12.1	31.7	39.9	21.0	21.5	10.2	17.2	6.8	5.3
Other Loans	N	662	687	85	31	74	18	97	84	170	241	97	112	74	154	65	47
	V	2.9	4.8	1.7	2.4	1.5	3.6	2.4	2.9	5.5	8.0	4.4	5.5	2.9	4.2	4.4	5.6
	H	100.0	100.0	12.8	4.5	11.2	2.6	14.7	12.2	25.7	35.1	14.7	16.3	11.2	22.4	9.8	6.8
Other Sources	N	813	808	115	44	152	27	161	204	133	174	99	108	74	194	79	57
	V	3.5	5.7	2.4	3.4	3.1	5.4	4.0	7.0	4.3	5.8	4.5	5.3	2.9	5.3	5.3	6.8
	H	100.0	100.0	14.1	5.4	18.7	3.3	19.8	25.2	16.4	21.5	12.2	13.4	9.1	24.0	9.7	7.1
Unduplicated Total‡		23,073	14,271	4,861	1,279	4,849	500	4,070	2,934	3,076	3,025	2,182	2,049	2,553	3,647	1,482	837

NOTE: In this table a recipient counts once in each source category from which he or she received support. Since students indicate multiple sources of support, the vertical percentages sum to more than 100 percent. (Data on the "primary" source of support for doctorate recipients are presented in the body of the report.) Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A.

*V denotes vertical percentage; H denotes horizontal percentage.
†Because federal support obtained through the university cannot always be determined, no distinction is made between federal and university research assistants in this table. Both types of support are grouped under "University Research Assistant." Federal loans are counted in the categories for loans.
‡The 2,410 Ph.D.s who did not report sources of support are omitted from this total. Percentages are based only on known responses.

SOURCE: National Research Council, Survey of Earned Doctorates.

APPENDIX TABLE A-6 State of Doctoral Institution of Doctorate Recipients, by Broad Field and Gender, 1993

	Total		Physical Sciences		Engineering		Life Sciences		Social Sciences		Humanities		Education		Prof./Other Fields	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
U.S. Total*	24,646	15,108	5,152	1,344	5,175	521	4,311	3,086	3,316	3,229	2,351	2,130	2,743	3,904	1,598	894
Alabama	246	160	41	6	61	7	69	50	14	16	6	8	31	60	24	13
Alaska	7	3	4	1	0	0	3	2	0	0	0	0	0	0	0	0
Arizona	426	261	101	33	100	7	56	40	38	43	33	33	54	88	44	17
Arkansas	73	47	8	4	4	4	28	9	3	1	3	2	25	25	2	2
California	2,956	1,783	672	181	699	80	462	309	513	605	282	245	195	292	133	71
Colorado	464	231	119	30	142	12	70	57	42	44	27	29	41	47	23	12
Connecticut	365	240	90	21	28	4	74	64	62	45	79	77	16	24	16	5
Delaware	102	42	34	10	39	5	5	4	11	9	9	9	3	5	1	0
Dist. of Columbia	292	239	45	14	34	1	40	42	66	72	55	51	19	42	33	17
Florida	771	583	129	35	120	9	100	60	98	82	44	46	214	309	66	42
Georgia	477	348	68	24	112	14	92	52	63	54	31	46	65	130	46	28
Hawaii	96	52	28	6	4	1	29	14	21	14	10	12	4	5	0	0
Idaho	50	15	7	0	13	0	20	2	3	2	2	3	5	8	0	0
Illinois	1,437	799	308	64	280	31	197	168	206	184	200	118	154	195	92	39
Indiana	714	354	149	41	163	16	97	70	94	73	91	62	67	64	53	27
Iowa	479	201	105	25	90	7	96	41	52	34	33	36	76	50	27	8
Kansas	214	169	30	21	45	1	58	31	30	26	13	19	30	62	8	9
Kentucky	202	88	24	13	27	1	50	18	21	19	25	9	21	16	34	12
Louisiana	267	155	51	19	37	2	68	45	23	23	40	24	24	32	24	10
Maine	22	18	4	2	4	0	9	7	1	3	2	0	2	6	0	0
Maryland	552	402	123	26	125	17	136	109	73	93	42	61	30	73	23	23
Massachusetts	1,403	761	368	85	302	41	197	158	200	153	146	103	119	172	71	49
Michigan	891	518	148	48	260	24	154	112	116	113	56	73	115	116	42	32
Minnesota	492	286	82	17	76	11	112	65	61	53	33	35	68	74	60	31
Mississippi	172	109	19	4	13	1	37	15	23	16	8	11	41	58	31	4
Missouri	415	229	56	14	85	2	87	37	47	58	40	23	55	77	45	18
Montana	46	11	12	3	5	0	21	0	2	3	0	0	6	5	0	0
Nebraska	143	95	18	4	14	2	44	13	20	20	7	11	22	40	18	5
Nevada	24	15	7	1	5	0	2	2	4	3	2	0	4	9	0	0
New Hampshire	79	25	33	6	19	3	21	7	4	6	1	2	1	1	0	0
New Jersey	483	302	130	39	107	16	63	66	64	66	63	64	31	38	25	13
New Mexico	148	99	37	17	38	3	22	15	17	20	12	8	21	35	1	1
New York	2,259	1,636	505	120	379	34	371	329	397	431	306	314	182	312	119	96
North Carolina	623	367	130	36	130	10	161	104	65	68	55	57	56	82	26	10
North Dakota	49	25	17	2	5	1	9	4	8	8	4	1	6	9	0	0
Ohio	1,018	645	186	74	256	21	169	118	101	106	98	93	139	185	69	48
Oklahoma	238	167	34	13	48	7	42	17	30	25	14	17	48	69	22	19
Oregon	308	203	63	17	21	2	98	59	30	29	16	19	63	65	17	12
Pennsylvania	1,258	810	262	59	340	29	153	165	160	162	106	123	142	207	95	65
Puerto Rico	23	37	4	4	0	0	2	0	7	7	0	4	9	21	1	1
Rhode Island	168	103	63	9	33	5	22	22	30	24	20	43	0	0	0	0
South Carolina	233	162	55	12	32	3	58	39	19	18	20	19	33	66	16	5
South Dakota	27	22	4	0	2	0	5	3	4	2	0	0	12	17	0	0
Tennessee	370	277	38	9	73	13	69	49	53	45	32	23	68	119	37	19
Texas	1,584	941	334	85	347	37	251	225	145	152	139	83	202	293	166	66
Utah	274	102	54	10	75	0	51	25	42	26	12	3	32	23	8	15
Vermont	28	25	6	0	1	1	13	11	5	10	0	0	3	3	0	0
Virginia	615	391	122	35	151	18	91	83	92	72	31	34	86	127	42	22
Washington	401	217	79	17	86	7	91	61	52	41	35	27	43	51	15	13
West Virginia	78	38	6	1	17	0	18	6	12	7	3	0	22	24	0	0
Wisconsin	550	285	125	23	126	11	111	79	68	40	65	49	32	68	23	15
Wyoming	34	15	15	4	2	0	7	3	4	3	0	0	6	5	0	0

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A.

*Includes the 50 states, the District of Columbia, and Puerto Rico.

SOURCE: National Research Council, Survey of Earned Doctorates.

APPENDIX TABLE A-7 Institutions Granting Doctorates, by Major Field, 1993

	1993 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sci.	Math and Computer Sci.	Engineering	Biosciences	Health Sciences	Agricultural Sciences	Psychology	Other Social Sciences	History	Eng. and Amer. Lang. and Lit	Other Humanities	Education	Professional/ Other Fields
TOTAL ALL INSTITUTIONS*	39,754	1,543	2,139	790	2,024	5,696	5,090	1,201	1,108	3,419	3,126	728	948	2,805	6,647	2,492
ALABAMA	406	12	17	3	15	68	72	32	15	26	4	5	5	4	91	37
Alabama A & M University	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Auburn University	123	3	4	1	3	22	16	6	14	13	2	3	2	0	30	4
United States Sports Academy	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Univ of Alabama-Birmingham	108	2	2	0	5	6	50	26	0	5	0	0	0	0	12	0
Univ of Alabama-Huntsville	33	6	0	0	3	24	0	0	0	0	0	0	0	0	0	0
Univ of Alabama-University	133	1	11	2	4	16	0	0	0	8	2	2	3	4	47	33
Univ of South Alabama	6	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
ALASKA	10	1	0	3	1	0	4	0	1	0	0	0	0	0	0	0
Univ of Alaska	10	1	0	3	1	0	4	0	1	0	0	0	0	0	0	0
ARIZONA	687	45	36	23	30	107	62	19	15	35	46	10	11	45	142	61
Arizona State Univ	270	10	13	6	14	58	10	4	0	15	16	4	4	18	64	34
Northern Arizona Univ	48	0	0	0	0	0	4	0	0	0	2	4	0	0	38	0
Univ of Arizona	369	35	23	17	16	49	48	15	15	20	28	2	7	27	40	27
ARKANSAS	120	0	9	0	3	8	12	0	25	3	1	1	3	1	50	4
U of Arkansas-Fayetteville	117	0	9	0	3	7	10	0	25	3	1	1	3	1	50	4
U of Arkansas-Little Rock	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
U of Arkansas-Med Sci Campus	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
CALIFORNIA	4,739	217	269	114	253	779	628	82	61	683	435	91	103	333	487	204
Biola Univ	12	0	0	0	0	0	0	0	0	6	0	0	0	0	6	0
Cal Inst of Integral Studies	29	0	0	0	0	0	0	0	0	25	0	0	0	4	0	0
Cal Inst of Technology	158	33	29	12	7	52	19	0	0	0	6	0	0	0	0	0
Cal Sch Prof Psych-Alameda	61	0	0	0	0	0	0	0	0	61	0	0	0	0	0	0
Cal Sch Prof Psych-Alhambra	84	0	0	0	0	0	0	0	0	84	0	0	0	0	0	0
Cal Sch Prof Psych-Fresno	60	0	0	0	0	0	0	0	0	60	0	0	0	0	0	0
Cal Sch Prof Psych-San Diego	61	0	0	0	0	0	0	0	0	61	0	0	0	0	0	0
Claremont Graduate School	68	0	0	0	0	0	2	0	0	9	18	0	2	10	19	8
Fielding Institute	53	0	0	0	0	0	0	0	0	37	1	0	0	1	3	11
Fuller Theological Seminary	45	0	0	0	0	0	0	0	0	34	0	2	0	5	0	4
Golden Gate Baptist Theol Sem	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3
Graduate Theological Union	28	0	0	0	0	0	0	0	0	1	2	0	0	14	0	11
Hebrew Union College	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
La Sierra Univ	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0
Loma Linda Univ	16	0	0	0	0	0	8	7	0	0	0	0	0	0	1	0
Naval Postgraduate School	11	1	0	4	3	3	0	0	0	0	0	0	0	0	0	0
Pacific Grad Sch of Psych	23	0	0	0	0	0	0	0	0	23	0	0	0	0	0	0
Pepperdine Univ	20	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0
Rand Grad Sch Policy Studies	11	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0
San Diego State Univ	27	0	4	0	0	0	5	0	0	8	0	0	0	0	10	0
Saybrook Institute	16	0	0	0	1	0	0	0	0	14	1	0	0	0	0	0
Stanford Univ	578	27	32	21	45	197	54	0	4	19	52	7	10	51	37	22
U.S. International Univ	100	0	0	0	0	0	0	0	0	75	1	0	0	0	11	13
Univ of California-Berkeley	806	47	51	10	65	171	101	16	28	20	101	33	24	71	36	32
Univ of California-Davis	307	9	30	6	14	46	123	3	21	5	26	8	4	11	0	1
Univ of California-Irvine	154	10	21	0	13	26	39	1	0	5	11	3	12	5	0	8
Univ of Calif-Los Angeles	655	33	33	19	47	89	88	22	1	38	84	18	20	67	65	31
Univ of Calif-Riverside	104	5	5	1	10	0	36	0	7	7	12	2	4	6	9	0
Univ of Calif-San Diego	263	23	26	22	19	45	62	0	0	9	22	4	11	17	0	3
Univ of Calif-San Francisco	87	0	13	0	0	3	29	28	0	1	12	1	0	0	0	0
Univ of Calif-Santa Barbara	205	11	8	5	7	56	15	1	0	11	34	7	3	24	23	0
Univ of Calif-Santa Cruz	71	12	5	9	6	0	13	0	0	6	6	6	4	4	0	0
Univ of La Verne	65	0	0	0	0	0	0	0	0	0	1	0	0	0	45	19
Univ of the Pacific	15	0	1	0	0	0	1	0	0	0	0	0	0	0	13	0
Univ of San Diego	11	0	0	0	0	0	0	2	0	0	0	0	0	0	9	0
Univ of San Francisco	69	0	0	0	0	0	0	0	0	0	0	0	0	0	69	0
Univ of Santa Clara	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
Univ of Southern California	418	6	11	5	16	88	33	2	0	34	34	0	9	39	103	38
Wright Institute, The	30	0	0	0	0	0	0	0	0	30	0	0	0	0	0	0
COLORADO	695	22	35	51	41	154	80	21	26	41	45	4	13	39	88	35
Colorado School of Mines	33	1	3	9	3	16	0	0	0	0	1	0	0	0	0	0
Colorado State Univ	197	2	9	18	16	53	31	5	26	11	7	0	0	0	18	1
Univ of Colorado	358	19	22	23	20	85	46	15	0	12	25	3	8	27	26	27
Univ of Denver	64	0	1	1	0	0	3	0	0	17	11	1	5	5	13	7
Univ of Northern Colorado	43	0	0	0	2	0	0	1	0	1	1	0	0	7	31	0
CONNECTICUT	605	33	39	8	31	32	115	19	4	41	66	28	15	113	40	21
Univ of Connecticut	216	3	16	1	11	20	38	10	2	23	23	5	8	10	40	6
Univ of Hartford	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Univ of New Haven	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Wesleyan Univ	17	3	6	0	1	0	4	0	0	0	0	0	0	3	0	0
Yale Univ	367	27	17	7	19	12	73	9	2	18	43	23	7	99	0	11
DELAWARE	144	8	14	10	12	44	6	0	3	8	12	4	5	9	8	1
Univ of Delaware	144	8	14	10	12	44	6	0	3	8	12	4	5	9	8	1

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*Includes the 50 states, the District of Columbia, and Puerto Rico.

	1993 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sci.	Math and Computer Sci.	Engineering	Biosciences	Health Sciences	Agricultural Sciences	Psychology	Other Social Sciences	History	Eng. and Amer. Lang. and Lit.	Other Humanities	Education	Professional/ Other Fields
DISTRICT OF COLUMBIA	531	12	27	0	20	35	69	13	0	52	86	16	5	85	61	50
American Univ	69	3	9	0	2	0	2	0	0	13	20	2	0	3	13	2
Catholic Univ of America	117	5	2	0	0	7	5	10	0	14	10	2	1	41	4	16
Gallaudet Univ	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
George Washington Univ	168	3	2	0	15	28	22	2	0	11	18	3	2	5	39	18
Georgetown Univ	87	0	7	0	0	0	22	0	0	1	20	8	0	29	0	0
Howard Univ	88	1	7	0	3	0	18	1	0	13	18	1	2	7	3	14
FLORIDA	1,354	32	47	25	60	129	88	26	46	111	69	12	23	55	523	108
Barry Univ	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Caribbean Ctr Adv Stud-Miami	5	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
Florida Atlantic Univ	34	2	0	0	2	15	0	0	0	2	0	0	0	0	10	3
Florida Inst of Technology	21	1	0	0	5	9	1	0	0	0	0	0	0	0	5	0
Florida International Univ	26	0	0	0	0	0	0	0	0	1	0	0	0	0	20	5
Florida State Univ	263	13	8	10	16	1	7	1	0	25	22	6	6	35	79	34
Nova Univ	362	0	0	2	10	0	0	0	0	21	3	0	0	0	290	36
Univ of Central Florida	33	2	0	0	4	9	0	0	0	0	0	0	0	0	16	2
Univ of Florida	372	9	29	3	14	80	51	17	45	19	31	3	3	5	46	17
Univ of Miami	124	5	6	7	2	8	17	5	1	21	8	3	3	13	24	1
Univ of South Florida	108	0	4	3	7	7	12	3	0	17	5	0	11	2	33	4
GEORGIA	825	14	49	7	22	126	95	22	27	75	42	12	24	41	195	74
Clark Atlanta Univ	34	0	1	0	0	0	1	0	0	3	7	1	0	2	17	2
Emory Univ	110	2	20	0	2	0	18	1	0	9	6	6	14	20	8	4
Georgia Inst of Technology	198	10	13	5	20	125	8	0	0	5	1	0	0	0	0	11
Georgia State Univ	119	0	3	0	0	0	6	7	0	19	4	2	4	1	58	15
Inst of Paper Sci & Tech	4	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0
Medical College of Georgia	12	0	0	0	0	0	8	4	0	0	0	0	0	0	0	0
Univ of Georgia	348	2	12	2	0	0	54	10	24	39	24	3	6	18	112	42
HAWAII	148	9	8	12	5	5	29	6	8	6	29	1	2	19	9	0
Univ of Hawaii at Manoa	148	9	8	12	5	5	29	6	8	6	29	1	2	19	9	0
IDAHO	65	1	5	1	0	13	12	1	9	1	4	3	2	0	13	0
Idaho State Univ	7	0	0	0	0	0	2	1	0	0	1	0	2	0	1	0
Univ of Idaho	58	1	5	1	0	13	10	0	9	1	3	3	0	0	12	0
ILLINOIS	2,236	83	114	20	155	311	265	67	33	167	223	67	56	195	349	131
DePaul Univ	18	0	0	0	0	0	0	0	0	16	0	0	0	2	0	0
Illinois Inst of Technology	67	4	1	0	16	20	2	0	0	21	0	0	0	0	0	3
Illinois State Univ-Normal	42	0	0	0	1	0	8	0	0	0	0	0	4	1	28	0
Loyola Univ of Chicago	97	0	2	0	0	0	12	1	0	21	2	1	2	5	48	3
Lutheran Sch of Theol-Chicago	5	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2
Northern Illinois Univ	122	0	5	2	7	0	4	0	0	4	11	4	6	1	78	0
Northwestern Univ	364	10	36	2	33	91	49	3	0	21	27	7	6	51	7	21
Rush Univ	18	0	0	0	0	0	10	7	0	1	0	0	0	0	0	0
Southern Ill Univ-Carbondale	184	2	5	2	0	6	13	8	1	21	23	0	10	11	63	19
Southern Ill Univ-Edwardsville	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0
Univ of Chicago	346	27	24	8	21	0	40	0	0	12	78	34	7	52	12	31
Univ of Health Sci-Chicago Med	11	1	0	0	0	0	4	0	0	6	0	0	0	0	0	0
Univ of Ill-Chicago	245	5	13	0	29	34	44	39	0	14	31	5	6	6	14	5
Univ of Ill-Urbana/Champaign	706	34	28	6	48	160	79	9	32	30	51	16	15	63	88	47
INDIANA	1,068	38	76	22	54	179	109	33	25	88	79	19	34	101	131	80
Ball State Univ	45	0	0	0	0	0	0	3	0	16	1	1	6	6	12	0
Grace Theological Seminary	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Indiana State Univ	29	0	0	0	0	0	4	0	1	8	2	0	0	0	14	0
Indiana Univ-Bloomington	365	9	23	11	17	0	29	7	0	25	38	14	17	65	70	40
Indiana Univ Sch of Medicine	14	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0
Purdue Univ	503	18	46	11	31	159	68	9	24	29	20	2	5	17	34	30
Univ of Notre Dame	111	11	7	0	6	20	8	0	0	10	18	2	6	13	1	9
IOWA	680	11	54	9	56	97	57	25	55	29	57	8	23	38	126	35
Drake Univ	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0
Iowa State Univ	322	6	30	5	27	57	23	2	55	11	36	2	0	0	64	4
Maharishi International Univ	5	0	0	0	0	0	2	1	0	2	0	0	0	0	0	0
Univ of Iowa	334	5	24	4	29	38	32	22	0	16	21	6	23	38	48	28
Univ of Northern Iowa	10	0	0	0	0	2	0	0	0	0	0	0	0	0	5	3
KANSAS	383	5	28	4	14	46	58	6	25	34	22	2	3	27	92	17
Kansas State Univ	155	2	10	0	8	13	24	0	25	7	8	0	1	0	51	6
Univ of Kansas	209	3	15	4	4	21	34	5	0	27	14	2	2	27	40	11
Wichita State Univ	19	0	3	0	2	12	0	1	0	0	0	0	0	0	1	0
KENTUCKY	290	6	14	4	13	28	43	8	17	22	18	3	5	26	37	46
Southern Bapt Theol Seminary	44	0	0	0	0	0	0	0	0	1	0	1	0	13	6	23
Univ of Kentucky	192	6	9	4	11	24	22	7	17	13	16	2	3	11	24	23
Univ of Louisville	54	0	5	0	2	4	21	1	0	8	2	0	2	2	7	0
LOUISIANA	422	5	22	10	33	39	73	27	13	34	12	6	25	33	56	34
Grambling St Univ	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
Louisiana St U & A&M College	188	4	7	8	12	16	31	6	13	17	4	3	9	17	29	12
Louisiana St U Med-New Orleans	13	0	0	0	0	0	12	1	0	0	0	0	0	0	0	0
Louisiana St U Med-Shreveport	12	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0
Louisiana Tech Univ	11	0	0	0	0	7	0	0	0	0	0	0	0	0	0	4
New Orleans Bapt Theol Seminary	35	0	0	0	0	0	0	0	0	5	0	0	0	9	6	15
Northeast Louisiana Univ	10	0	1	0	0	0	4	5	0	0	0	0	0	0	0	0

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LOUISIANA (continued)																
Tulane Univ of Louisiana	84	1	5	2	10	10	11	15	0	6	3	3	8	7	0	3
Univ of New Orleans	38	0	9	0	0	0	0	0	0	6	5	0	0	0	18	0
Univ of Southwestern Louisiana	28	0	0	0	11	6	3	0	0	0	0	0	8	0	0	0
MAINE	40	2	4	0	0	4	10	0	6	3	1	1	0	1	8	0
Univ of Maine	40	2	4	0	0	4	10	0	6	3	1	1	0	1	8	0
MARYLAND	954	41	27	21	60	142	160	71	14	68	98	19	13	71	103	46
Johns Hopkins Univ	317	12	17	5	7	43	84	54	0	4	47	12	2	26	4	0
Loyola College in Maryland	11	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0
Morgan State Univ	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
Peabody Inst of Johns Hopkins	11	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0
Uniformed Serv U of Hlth Sci	14	0	0	0	0	0	8	0	0	6	0	0	0	0	0	0
U of Maryland-Baltimore County	49	0	2	0	10	8	12	0	0	6	6	0	0	4	0	1
U of Maryland-College Park	486	29	6	15	43	90	28	1	14	41	45	7	11	30	94	32
U of Maryland-Eastern Shore	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
U of Maryland Sch of Med	59	0	1	0	0	1	28	16	0	0	0	0	0	0	0	13
MASSACHUSETTS	2,164	159	141	41	112	343	295	52	8	98	255	44	43	162	291	120
American Internatl College	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0
Boston College	119	4	6	0	0	0	1	7	0	17	16	4	4	13	38	9
Boston Univ	260	16	12	2	6	12	50	11	0	21	30	6	3	26	48	17
Brandeis Univ	86	6	6	0	9	0	15	1	0	4	20	4	9	4	0	8
Clark Univ	26	1	3	0	0	0	3	0	0	9	5	0	0	0	5	0
Harvard Univ	528	30	40	6	24	6	93	21	1	9	87	24	15	77	59	36
Mass Coll Pharm & Health Sci	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
Mass Inst of Technology	516	58	33	27	43	212	49	0	1	3	54	0	0	15	0	21
Northeastern Univ	60	8	3	0	6	19	4	1	0	3	5	0	0	0	6	5
Simmons College	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Smith College	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Springfield College	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
Tufts Univ	73	6	4	0	0	12	28	1	0	6	12	0	0	4	0	0
Univ of Mass-Amherst	370	14	21	4	19	50	28	7	6	26	25	6	12	23	113	16
Univ of Mass-Boston	3	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0
Univ of Mass-Lowell	56	11	11	0	5	14	6	0	0	0	0	0	0	0	9	0
Univ of Mass-Worcester	15	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0
Worcester Polytechnic Inst	28	5	2	0	0	18	3	0	0	0	0	0	0	0	0	0
MICHIGAN	1,409	43	79	17	57	284	184	32	50	123	106	18	26	85	231	74
Andrews Univ	19	0	0	0	0	0	0	0	0	4	0	0	0	1	9	5
Michigan State Univ	390	14	22	3	20	45	61	4	47	26	34	3	7	12	72	20
Michigan Technological Univ	21	1	1	0	0	16	2	0	1	0	0	0	0	0	0	0
Oakland Univ	15	3	1	0	0	6	1	0	0	0	0	0	0	0	4	0
Univ of Detroit Mercy	22	0	5	0	0	3	0	0	0	14	0	0	0	0	0	0
Univ of Michigan	662	20	28	13	26	193	75	25	2	44	56	14	16	67	38	45
Wayne State Univ	226	5	21	1	7	21	45	3	0	26	11	1	3	5	74	3
Western Michigan Univ	54	0	1	0	4	0	0	0	0	9	5	0	0	0	34	1
MINNESOTA	778	18	38	8	35	87	90	47	40	67	47	7	15	46	142	91
Luther Northwestern Theol Sem	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Mayo Graduate School	8	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0
Univ of Minnesota-Minneapolis	628	18	38	8	34	87	81	34	40	35	45	7	15	45	91	50
Univ of St. Thomas	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0
Walden Univ	129	0	0	0	1	0	1	13	0	32	2	0	0	0	41	39
MISSISSIPPI	281	3	15	0	5	14	22	5	25	34	5	5	8	6	99	35
Delta State Univ	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
Jackson State Univ	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
Mississippi State Univ	101	0	2	0	2	11	10	2	25	2	3	0	0	0	32	12
Univ of Mississippi	77	3	4	0	3	3	5	1	0	11	2	5	5	1	17	17
U of Mississippi-Med Center	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Univ of Southern Mississippi	92	0	9	0	0	0	4	2	0	21	0	0	3	5	42	6
MISSOURI	644	14	29	7	20	87	91	10	23	70	35	11	12	40	132	63
Concordia Seminary	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Midwest Bapt Theol Seminary	25	0	0	0	0	0	0	0	0	0	0	0	0	9	0	16
St. Louis Univ	82	0	0	1	0	0	13	2	0	13	3	0	0	4	36	10
U of Missouri-Columbia	260	1	9	0	4	29	30	0	23	25	21	6	11	4	74	23
U of Missouri-Kansas City	51	0	2	0	0	0	3	6	0	12	0	0	0	13	15	0
U of Missouri-Rolla	58	3	6	1	8	39	0	0	0	0	0	0	0	0	0	1
U of Missouri-St. Louis	19	0	4	0	0	0	1	0	0	7	2	0	0	0	5	0
Washington University	146	10	8	5	8	19	44	2	0	13	9	5	1	10	2	10
MONTANA	57	4	11	0	0	5	11	0	10	5	0	0	0	0	11	0
Montana State Univ	43	4	9	0	0	5	10	0	7	0	0	0	0	0	8	0
Univ of Montana	14	0	2	0	0	0	1	0	3	5	0	0	0	0	3	0
NEBRASKA	238	5	9	4	4	16	30	7	20	25	15	1	9	8	62	23
Creighton Univ	5	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
Univ of Nebraska-Lincoln	233	5	9	4	4	16	25	7	20	25	15	1	9	8	62	23
NEVADA	39	1	3	4	0	5	4	0	0	4	3	0	2	0	13	0
Univ of Nevada-Las Vegas	7	0	0	0	0	0	0	0	0	0	0	0	1	0	6	0
Univ of Nevada-Reno	32	1	3	4	0	5	4	0	0	4	3	0	1	0	7	0

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A.

	1993 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sci.	Math and Computer Sci.	Engineering	Biosciences	Health Sciences	Agricultural Sciences	Psychology	Other Social Sciences	History	Eng. and Amer. Lang. and Lit.	Other Humanities	Education	Professional/ Other Fields
NEW HAMPSHIRE	104	7	9	11	12	22	25	0	3	9	1	2	1	0	2	0
Dartmouth College	54	5	4	6	9	13	14	0	0	3	0	0	0	0	0	0
Univ of New Hampshire	50	2	5	5	3	9	11	0	3	6	1	2	1	0	2	0
NEW JERSEY	785	42	49	16	62	123	112	3	14	56	74	21	25	81	69	38
Drew Univ	25	0	0	0	0	0	0	0	0	0	0	1	2	13	0	9
Fairleigh Dickinson Univ	16	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0
New Jersey Inst of Technology	20	0	0	0	3	17	0	0	0	0	0	0	0	0	0	0
Princeton Theol Seminary	7	0	0	0	0	0	0	0	0	0	0	0	0	3	0	4
Princeton Univ	249	25	17	7	24	47	18	0	0	4	42	9	8	46	0	2
Rutgers St U-New Brunswick	349	12	19	9	29	44	67	3	14	17	30	11	15	19	49	11
Rutgers St U-Newark	41	0	7	0	0	0	14	0	0	6	2	0	0	0	0	12
Seton Hall Univ	32	0	2	0	0	0	0	0	0	10	0	0	0	0	20	0
Stevens Inst of Technology	33	5	4	0	6	15	0	0	0	3	0	0	0	0	0	0
Univ of Med & Dent of NJ	13	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0
NEW MEXICO	247	21	13	7	13	41	20	4	13	21	16	4	4	12	56	2
New Mexico Inst of Mining & Tech	22	4	2	5	1	10	0	0	0	0	0	0	0	0	0	0
New Mexico State Univ	61	8	3	0	4	13	6	0	13	4	0	0	0	1	8	1
Univ of New Mexico	164	9	8	2	8	18	14	4	0	17	16	4	4	11	48	1
NEW YORK	3,895	190	173	63	199	413	548	88	64	445	383	97	126	397	494	215
Adelphi Univ	44	0	0	0	0	0	0	10	0	26	0	0	0	0	0	8
Albany Medical College	11	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0
Alfred Univ	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
City U of NY-Grad Sch/U Ctr	316	15	28	7	23	20	44	5	0	55	45	5	13	34	2	20
Clarkson Univ	34	2	4	0	3	19	6	0	0	0	0	0	0	0	0	0
Columbia Univ	469	25	17	13	12	52	64	13	0	39	67	35	24	72	9	27
Columbia U-Teachers College	213	0	0	0	0	0	0	0	0	0	0	0	0	0	213	0
Cornell Univ	494	34	26	5	33	76	82	8	54	5	58	15	24	50	17	7
Cornell Univ Medical College	29	0	0	0	0	0	29	0	0	0	0	0	0	0	0	0
Fordham Univ	116	0	0	0	1	0	2	0	0	34	8	2	1	8	44	16
Hofstra Univ	66	0	0	0	0	0	0	0	0	51	0	0	0	0	15	0
Jewish Theol Sem of America	9	0	0	0	0	0	0	0	0	0	0	1	0	6	1	1
Juilliard School, The	9	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0
Long Island U-Brooklyn Campus	10	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0
Manhattan School of Music	12	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0
New School for Social Research	36	0	0	0	0	0	0	0	0	16	17	0	0	3	0	0
New York Medical College	6	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
New York Univ	406	6	7	0	29	3	47	28	0	42	26	7	8	89	56	58
Pace Univ	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Polytechnic Univ	49	9	7	0	5	27	0	1	0	0	0	0	0	0	0	0
Rensselaer Polytechnic Inst	134	12	9	0	16	84	1	0	0	0	3	0	0	0	0	9
Rockefeller Univ	19	0	0	0	0	0	18	1	0	0	0	0	0	0	0	0
St. John's Univ-Queens	34	0	1	0	0	0	7	7	0	8	0	1	3	0	7	0
State Univ of NY-Albany	144	11	4	2	4	0	10	0	0	23	31	0	6	10	30	13
State Univ of NY-Binghamton Univ	88	0	4	7	8	5	7	0	0	10	20	12	8	6	0	1
State Univ of NY-Buffalo	322	9	26	1	13	52	51	8	0	36	31	7	19	16	41	12
State Univ of NY-Stony Brook	280	30	18	13	28	18	54	2	0	31	28	4	12	40	2	0
SUNY Coll-Envirn Sci & Forestry	26	0	3	5	0	1	7	0	10	0	0	0	0	0	0	0
SUNY-Hlth Sci Ctr-Brooklyn	12	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0
SUNY-Hlth Sci Ctr-Syracuse	8	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0
Syracuse Univ	191	12	6	3	13	28	4	0	0	26	29	1	0	12	36	21
Union College	4	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3
Union Theological Seminary	10	0	0	0	0	0	0	0	0	0	0	0	0	3	0	7
Univ of Rochester	224	25	13	7	11	22	45	5	0	9	20	7	8	27	18	7
Yeshiva Univ	31	0	0	0	0	0	0	0	0	24	0	0	0	0	3	4
Yeshiva U-Einstein Coll of Med	33	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0
NORTH CAROLINA	990	29	65	16	56	140	193	31	41	63	70	19	43	50	138	36
Campbell Univ	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0
Duke Univ	208	11	12	3	13	27	53	0	0	12	21	6	16	24	0	10
East Carolina U-Sch of Med	5	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0
North Carolina St U-Raleigh	286	9	9	4	19	106	42	4	41	6	13	0	0	0	32	1
U of N Carolina-Chapel Hill	388	9	40	9	24	7	79	27	0	34	33	13	23	23	43	24
U of N Carolina-Greensboro	73	0	0	0	0	0	1	0	0	11	3	0	4	3	50	1
Wake Forest Univ	18	0	4	0	0	0	14	0	0	0	0	0	0	0	0	0
NORTH DAKOTA	74	6	10	1	2	6	3	0	10	16	0	2	2	1	15	0
North Dakota State Univ	32	3	9	0	2	6	2	0	10	0	0	0	0	0	0	0
Univ of North Dakota	42	3	1	1	0	0	1	0	0	16	0	2	2	1	15	0
OHIO	1,663	61	122	16	61	277	185	68	34	105	102	35	47	109	324	117
Air Force Inst of Technology	13	6	0	0	0	7	0	0	0	0	0	0	0	0	0	0
Bowling Green State Univ	78	0	0	0	4	0	5	0	0	13	5	4	4	20	11	12
Case Western Reserve Univ	157	9	14	0	6	61	24	9	0	4	5	1	3	2	0	19
Cleveland State Univ	28	0	5	0	0	10	4	0	0	1	1	0	0	0	7	0
Hebrew Union College	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0
Kent State Univ	120	6	7	2	3	0	7	5	0	9	9	4	2	3	42	21
Medical College of Ohio-Toledo	14	1	0	0	0	0	12	1	0	0	0	0	0	0	0	0
Miami Univ	54	0	7	1	0	0	6	0	0	9	0	4	3	0	24	0
Ohio State Univ	683	18	32	11	35	100	64	36	34	34	62	19	25	48	129	36
Ohio Univ	92	6	0	1	2	7	11	0	0	9	0	1	2	6	28	19
Univ of Akron	110	4	29	0	0	31	5	0	0	12	6	0	0	0	23	0
Univ of Cincinnati	224	7	23	1	4	45	41	15	0	6	14	2	4	26	26	10
Univ of Dayton	13	0	0	0	0	7	1	0	0	0	0	0	0	0	5	0
Univ of Toledo	63	4	5	0	2	8	2	1	0	8	0	0	4	0	29	0
Wright State Univ	10	0	0	0	5	1	3	1	0	0	0	0	0	0	0	0

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OKLAHOMA	405	11	11	10	15	55	31	5	23	37	18	9	10	12	117	41
Oklahoma State Univ	226	6	7	3	9	29	10	0	23	21	10	3	6	2	71	26
Univ of Oklahoma	154	5	4	4	6	20	21	5	0	8	8	6	1	10	41	15
Univ of Tulsa	25	0	0	3	0	6	0	0	0	8	0	0	3	0	5	0
OREGON	511	26	18	16	20	23	81	28	48	21	38	3	12	20	128	29
Oregon Graduate Inst of Sci & Tech	16	0	0	6	3	5	2	0	0	0	0	0	0	0	0	0
Oregon Health Sciences Univ	30	0	0	0	0	0	20	10	0	0	0	0	0	0	0	0
Oregon State Univ	189	6	9	8	9	12	40	10	48	2	11	0	0	0	29	5
Portland State Univ	39	4	3	0	0	6	2	0	0	0	12	0	0	0	9	3
Univ of Oregon	237	16	6	2	8	0	17	8	0	19	15	3	12	20	90	21
PENNSYLVANIA	2,068	72	106	25	118	369	229	75	14	154	168	37	45	147	349	160
Bryn Mawr College	32	0	0	0	0	0	0	0	0	8	2	2	3	8	0	9
Carnegie-Mellon Univ	155	9	5	0	26	73	10	0	0	8	7	3	0	4	0	10
Drexel Univ	71	6	4	1	4	44	1	0	0	3	0	0	0	0	0	8
Duquesne Univ	22	0	2	0	0	0	0	0	0	10	0	0	2	5	0	3
Hahnemann Univ	18	0	0	0	0	0	11	3	0	4	0	0	0	0	0	0
Indiana Univ of Pennsylvania	40	0	0	0	0	0	0	0	0	0	4	0	8	13	15	0
Lehigh Univ	95	8	11	0	8	34	2	0	0	5	3	0	5	0	15	4
Med College of Pennsylvania	10	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0
Pennsylvania State Univ	511	18	29	19	29	139	53	11	14	29	32	1	5	25	73	34
Phila Coll of Pharm & Sci	9	0	2	0	0	0	3	4	0	0	0	0	0	0	0	0
Temple Univ	282	4	12	0	15	0	15	6	0	44	16	10	3	18	125	14
Thomas Jefferson Univ	12	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0
Univ of Pennsylvania	453	16	13	1	22	49	75	14	0	24	79	18	17	52	32	41
Univ of Pittsburgh	332	11	25	4	14	30	37	28	0	19	25	3	2	21	77	36
Villanova Univ	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Westminster Theol Seminary	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Widener Univ	21	0	0	0	0	0	0	9	0	0	0	0	0	0	12	0
PUERTO RICO	60	0	8	0	0	0	2	0	0	14	0	2	0	2	30	2
Caribbean Ctr for Adv Studies	7	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0
Inter Amer U PR-Metro Campus	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0
Univ of Puerto Rico	39	0	8	0	0	0	2	0	0	7	0	2	0	2	16	2
RHODE ISLAND	271	16	13	17	26	38	23	9	12	29	25	10	16	37	0	0
Brown Univ	169	14	10	5	25	16	13	1	0	7	25	9	8	36	0	0
Providence College	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Univ of Rhode Island	101	2	3	12	1	22	10	8	12	22	0	0	8	1	0	0
SOUTH CAROLINA	395	9	20	17	21	35	63	25	9	20	17	7	12	20	99	21
Clemson Univ	85	4	8	2	12	20	18	0	9	0	2	0	0	0	9	1
Medical Univ of South Carolina	18	0	0	0	1	0	16	1	0	0	0	0	0	0	0	0
South Carolina State Univ	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0
Univ of South Carolina	281	5	12	15	8	15	29	24	0	20	15	7	12	20	79	20
SOUTH DAKOTA	49	0	1	3	0	2	3	0	5	3	3	0	0	0	29	0
S Dakota Sch of Mines & Tech	5	0	0	3	0	2	0	0	0	0	0	0	0	0	0	0
South Dakota State Univ	10	0	1	0	0	0	1	0	5	0	3	0	0	0	0	0
Univ of South Dakota	34	0	0	0	0	0	2	0	0	3	0	0	0	0	29	0
TENNESSEE	647	10	20	4	13	86	82	20	16	63	35	7	16	32	187	56
East Tennessee State Univ	22	0	0	0	0	0	4	0	0	0	0	0	0	0	18	0
Geo Peabody Coll for Teachers	68	0	0	0	0	0	0	0	0	0	0	0	0	0	68	0
Meharry Medical College	7	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0
Memphis State Univ	103	0	2	0	3	7	1	4	0	19	0	1	0	4	43	19
Mid-America Bapt Theol Sem	8	0	0	0	0	0	0	0	0	0	0	0	0	3	0	5
Middle Tennessee State Univ	14	0	0	0	0	0	0	0	0	0	0	1	4	0	9	0
Tennessee Technological Univ	7	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0
Univ of Tennessee-Knoxville	249	9	10	4	2	44	21	9	16	26	19	2	8	9	40	30
Univ of Tennessee-Memphis	25	0	0	0	0	0	20	5	0	0	0	0	0	0	0	0
Vanderbilt Univ	144	1	8	0	8	28	29	2	0	18	16	3	4	16	9	2
TEXAS	2,525	97	129	60	133	384	308	109	59	174	123	27	38	157	495	232
Baylor College of Medicine	41	0	0	0	0	0	41	0	0	0	0	0	0	0	0	0
Baylor Univ	18	1	3	0	0	0	1	0	0	1	0	0	0	3	7	2
Dallas Theological Seminary	11	0	0	0	0	0	0	0	0	0	0	0	0	5	0	6
East Texas State Univ	47	0	0	0	0	0	0	0	0	1	0	0	0	0	46	0
Lamar Univ	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Rice Univ	110	12	11	6	13	28	10	0	0	5	9	1	6	8	1	0
St. Mary's Univ	4	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0
Sam Houston State Univ	6	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0
Southern Methodist Univ	46	0	0	1	10	21	3	0	0	4	6	0	0	1	0	0
Southwestern Bapt Theol Sem	74	0	0	0	0	0	0	0	0	0	0	2	0	22	11	39
Stephen F Austin St Univ	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Texas A&M Univ-College Station	498	15	43	24	20	107	45	10	47	32	20	4	6	2	92	31
Texas A&M Univ-Kingsville	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Texas Christian Univ	21	4	4	0	0	0	0	0	0	4	0	1	7	1	0	0
Texas Southern Univ	29	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0
Texas Tech Univ	138	3	6	1	4	23	27	0	11	12	4	3	1	9	13	21
Texas Woman's Univ	109	0	0	0	0	0	8	37	1	7	10	0	0	3	32	11

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A.

	1993 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sci.	Math and Computer Sci.	Engineering	Biosciences	Health Sciences	Agricultural Sciences	Psychology	Other Social Sciences	History	Eng. and Amer. Lang. and Lit.	Other Humanities	Education	Professional/ Other Fields
TEXAS (continued)																
Univ of Dallas	3	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0
Univ of Houston	209	10	18	3	12	34	11	2	0	23	11	0	4	4	65	12
Univ of North Texas	202	5	7	0	9	0	30	0	0	26	6	5	3	11	83	17
Univ of Texas-Arlington	83	3	6	0	16	27	0	0	0	3	1	0	1	4	0	22
Univ of Texas-Austin	694	40	30	12	38	137	46	35	0	36	45	11	10	79	114	61
Univ of Texas-Dallas	52	4	1	6	11	4	1	3	0	6	3	0	0	3	0	10
Univ of Texas-El Paso	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
U Tex-Hlth Sci Ctr-Houston	52	0	0	2	0	0	29	21	0	0	0	0	0	0	0	0
U Tex-Hlth Sci Ctr-San Antonio	11	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0
U Tex-Med Branch-Galveston	21	0	0	0	0	0	19	0	0	0	0	0	0	2	0	0
U Tex-Southwestern Med Ctr	37	0	0	0	0	1	25	1	0	10	0	0	0	0	0	0
UTAH	376	11	26	8	19	75	43	15	18	45	23	2	6	7	55	23
Brigham Young Univ	74	2	7	0	4	7	6	1	0	16	4	1	0	4	22	0
Univ of Utah	211	7	16	6	13	49	25	14	0	11	18	1	6	3	19	23
Utah State Univ	91	2	3	2	2	19	12	0	18	18	1	0	0	0	14	0
VERMONT	53	0	6	0	0	2	21	0	3	15	0	0	0	0	6	0
Univ of Vermont	53	0	6	0	0	2	21	0	3	15	0	0	0	0	6	0
VIRGINIA	1,006	28	41	26	62	169	113	35	26	84	80	15	15	35	213	64
College of William & Mary	54	7	0	6	3	0	0	0	1	0	0	6	0	1	30	0
George Mason Univ	70	0	0	1	11	7	0	9	0	11	21	0	0	1	4	5
Old Dominion Univ	61	2	0	8	6	16	8	1	0	3	6	0	0	0	8	3
Regent Univ	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Union Theological Seminary	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Univ of Virginia	314	14	15	6	20	38	36	10	0	15	32	9	15	31	67	5
Virginia Commonwealth Univ	102	0	3	0	0	1	38	11	0	23	5	0	0	0	6	15
Virginia Polytech Inst & St U	402	5	22	5	22	107	31	4	25	32	16	0	0	1	98	34
WASHINGTON	618	25	26	18	27	93	83	29	40	41	52	11	17	34	94	28
Gonzaga Univ	17	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0
Seattle Univ	23	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0
Univ of Washington	415	22	24	17	21	69	55	27	23	19	38	6	15	31	26	22
Washington State Univ	163	3	2	1	6	24	28	2	17	22	14	5	2	3	28	6
WEST VIRGINIA	116	0	4	1	2	17	15	0	9	12	7	1	1	1	46	0
Marshall Univ	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
West Virginia Univ	114	0	4	1	2	17	13	0	9	12	7	1	1	1	46	0
WISCONSIN	835	37	48	17	46	137	125	26	39	32	76	19	27	68	100	38
Marquette Univ	61	0	5	0	1	13	1	0	0	3	0	3	2	10	19	4
Medical College of Wisconsin	11	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0
Univ of Wisconsin-Madison	674	35	40	14	39	113	108	22	39	21	58	16	21	53	65	30
Univ of Wisconsin-Milwaukee	89	2	3	3	6	11	5	4	0	8	18	0	4	5	16	4
WYOMING	49	1	2	10	6	2	8	0	2	7	0	0	0	0	11	0
Univ of Wyoming	49	1	2	10	6	2	8	0	2	7	0	0	0	0	11	0

Top 50 Doctorate-Granting Institutions, 1993

1.	Univ of California-Berkeley	806	
2.	Univ of Illinois-Urbana/Champaign	706	
3.	Univ of Texas-Austin	694	
4.	Ohio State Univ	683	
5.	Univ of Wisconsin-Madison	674	
6.	Univ of Michigan	662	
7.	Univ of California-Los Angeles	655	
8.	Univ of Minnesota-Minneapolis	628	
9.	Stanford Univ	578	
10.	Harvard Univ	528	
11.	Massachusetts Inst of Technology	516	
12.	Pennsylvania State Univ	511	
13.	Purdue Univ	503	
14.	Texas A&M Univ-College Station	498	
15.	Cornell Univ	494	
16.	Univ of Maryland-College Park	486	
17.	Columbia Univ	469	
18.	Univ of Pennsylvania	453	
19.	Univ of Southern California	418	
20.	Univ of Washington	415	
21.	New York Univ	406	
22.	Virginia Polytech Inst & State Univ	402	
23.	Michigan State Univ	390	
24.	Univ of North Carolina-Chapel Hill	388	
25.	Univ of Florida	372	
26.	Univ of Massachusetts-Amherst	370	
27.	Univ of Arizona	369	
28.	Yale Univ	367	
29.	Indiana Univ-Bloomington	365	
30.	Northwestern Univ	364	
31.	Nova Univ	362	
32.	Univ of Colorado	358	
33.	Rutgers State Univ-New Brunswick	349	
34.	Univ of Georgia	348	
35.	Univ of Chicago	346	
36.	Univ of Iowa	334	
37.	Univ of Pittsburgh	332	
38.	State Univ of New York-Buffalo	322	
39.	Iowa State Univ	322	
40.	Johns Hopkins Univ	317	
41.	City U of NY-Grad Sch/Univ Ctr	316	
42.	Univ of Virginia	314	
43.	Univ of California-Davis	307	
44.	North Carolina State Univ-Raleigh	286	
45.	Temple Univ	282	
46.	Univ of South Carolina	281	
47.	State Univ of New York-Stony Brook	280	
48.	Arizona State Univ	270	
49.	Florida State Univ	263	
50.	Univ of California-San Diego	263	

SOURCE: National Research Council, Survey of Earned Doctorates.

APPENDIX B: Trend Tables, 1983-1993

Appendix B includes the following two tables:

B-1 Number of Doctorate Recipients, by Subfield, 1983-1993
B-2 Number of Doctorate Recipients, by Gender, Race/Ethnicity, and Citizenship, 1978 and 1983-1993

***** IMPORTANT NOTICE *****

The estimates reported for the Survey of Earned Doctorates (SED) are simple tabulations of all available information, with no adjustment for nonresponse. Thus, differences in response rates from year to year can produce numerical fluctuations that are unrelated to true trends.

Response to the SED has been 95 to 98 percent over the years, except during the 1980s when it gradually declined to 92 percent. In an effort to improve the response rate, the survey methodology has undergone some revision in the years since 1989. Response has risen as hoped, stabilizing at 95 percent during the last three years (1991 to 1993). (Note: These percentages represent *self-report rates*, i.e., the proportion of survey forms completed by doctorate recipients. Questionnaires filled in with partial information by either the doctoral institution or staff of the National Research Council are not included in these self-report rates *but are* included in tabulations in this report.) The self-report rate for 1993 may increase somewhat in the next year if additional questionnaires are received from doctorate recipients. See page 82 in Appendix C for a table giving survey response rates from 1980 to 1993.

Item response rates have shown a parallel improvement since 1990—a natural consequence of the increase in the overall self-report rate, as well as a result of format revisions to the questionnaire and follow-ups for missing information. In 1990, new follow-up procedures were implemented, increasing coverage of several variables (birth year, gender, race/ethnicity, citizenship status, country of citizenship, baccalaureate year and institution, and postgraduation plans). Response rates for these variables have thus improved—especially for citizenship and race/ethnicity, resulting in an increase in the reported numbers of minority Ph.D.s. Postsurvey adjustment to data was greatest in 1990 and 1991, with the largest impact on the number of black Ph.D.s. For both of these years, the total number of black Ph.D.s increased by about 7.5 percent in the year after survey closure. Postsurvey adjustments were much smaller for 1992 data (a 1.4 percent increase in black Ph.D.s) because the survey cycle was extended a month to allow receipt of additional follow-up information before closure; the same is expected for 1993 data.

All adjustments to data are presented in reports subsequent to the initial report for a survey. Thus, updates for 1990 appeared in *Summary Report 1991*; those for 1991 appeared in *Summary Report 1992*; and those for 1992 are included in this year's report (see Appendix Table B-2). The data for 1993 will likewise be subject to further revision, but as for 1992, adjustments are expected to be minimal. Updates to 1993 data will be presented in next year's report.

In using SED data, the reader should keep in mind that numerical trends are affected by fluctuations in response rates. Increasing or decreasing numbers in a citizenship or racial/ethnic group reflect to some degree any upward or downward change in both overall survey response and item response.

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TABLE B-1: Table B-1 presents data for the most recent decade by subfield of doctorate. In general, the subfields correspond to the fields on the questionnaire's Specialties List located at the back of this report; some, however, do not appear on the current Specialties List because they are no longer included in the survey taxonomy. A dash (-) in a column indicates that the field was not on the Specialties List for that year.

Field groupings in this table may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates (SED); see inside the back cover for a description of field groupings as reported in these tables. The "general" field categories—e.g., "chemistry, general"—include individuals who either received the doctorate in the general subject area or did not indicate a particular specialty field. The "other" field categories—e.g., "chemistry, other"—include individuals whose specified doctoral discipline was not among the specialty fields.

The seven tables in Appendix A present additional information on the most recent cohort of Ph.D.s by field of doctorate.

TABLE B-2: Table B-2 displays data on the race/ethnicity of doctorate recipients for 1978 and the last decade by gender and citizenship. (The year 1978 is included because it serves as the earliest point of comparison for racial/ethnic data presented in the body of the report.) Table B-2 contains three panels, each displayed on a separate page. The first panel includes all doctorates; the others disaggregate the data by gender.

The reader should note that numbers in Table B-2 have been revised since publication of Summary Report 1992. Because of late questionnaire returns and responses to follow-ups for missing information, data are subject to revision in the year after survey closure. New follow-up procedures first implemented in 1990 have increased coverage of several variables, including citizenship and race/ethnicity. One result has been greater postsurvey adjustment to racial/ethnic data than in earlier years. (Note: The greatest adjustment was to the numbers of black Ph.D.s in 1990 and 1991—an increase of about 7.5 percent each year.) Updates to 1992 racial/ethnic data are shown in Table B-2 in this year's report. See the notice on page 71 for additional information on recent increases in response rates and their impact on time-series data.

The racial/ethnic question has undergone several revisions over the years. In 1977, it was modified to correspond to a standard question format recommended by the Federal Interagency Committee on Education and adopted by the Office of Management and Budget (OMB) for use in federally sponsored surveys; an explanation of the effect of these changes is detailed on page 13 of *Summary Report 1977*. (Note: Changes in the OMB guidelines prompted the moving of persons having origins in the Indian subcontinent from the white category to the Asian category.) In 1980, the item was further revised in two ways: (1) the Hispanic category was subdivided into Puerto Rican, Mexican American, and other Hispanic to provide more detail for users of the racial/ethnic data, and (2) respondents were asked to check only one racial category. (Before 1980, doctorate recipients could check more than one category to indicate their race.) The item was modified again in 1982 to separate the questions on race and ethnicity. Since then, respondents have been asked to first check one of the four racial group categories (American Indian, Asian, black, or white) and then indicate whether or not they are Hispanic. In Table B-2, Ph.D.s who reported Hispanic heritage, regardless of racial designation, are counted as Hispanic. The remaining survey respondents

are then counted in the respective racial groups. (Note: Doctorate recipients who checked the category "American Indian or Alaskan Native" are identified as Native American in this report.)

Tables A-2 and A-4 in Appendix A present additional information on the most recent cohort of Ph.D.s by race/ethnicity.

APPENDIX TABLE B-1 Number of Doctorate Recipients, by Subfield, 1983-1993

	Year of Doctorate										
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
TOTAL ALL FIELDS	31,282	31,337	31,298	31,899	32,367	33,499	34,324	36,068	37,517	38,853	39,754
PHYSICAL SCIENCES	4,426	4,452	4,531	4,807	5,030	5,309	5,455	5,859	6,279	6,502	6,496
MATHEMATICS	701	698	688	729	740	749	859	892	1,039	1,058	1,146
Applied Mathematics	125	108	116	135	131	142	158	185	193	213	188
Algebra	55	65	55	46	57	54	50	39	72	69	84
Analysis and Functional Analysis	76	71	83	81	86	76	103	90	132	105	105
Geometry	44	27	35	38	30	44	47	42	66	45	44
Logic	21	25	30	23	18	20	12	19	23	28	19
Number Theory	19	27	18	20	15	26	23	26	30	25	42
Mathematical Statistics	151	181	150	141	143	152	167	157	206	217	228
Topology	44	42	35	34	41	27	37	50	57	58	54
Computing Theory and Practice	12	13	15	10	14	12	12	12	19	12	18
Operations Research	20	27	22	29	22	29	25	29	16	22	27
Mathematics, General	86	78	85	125	137	134	177	191	180	209	276
Mathematics, Other	48	34	44	47	46	33	51	52	45	55	51
COMPUTER SCIENCE	286	295	310	399	450	515	612	705	800	869	878
Computer Science	264	256	249	355	384	442	519	612	720	791	823
Information Sciences and Systems	22	39	61	44	66	73	93	93	80	78	55
PHYSICS AND ASTRONOMY	1,043	1,080	1,080	1,187	1,237	1,302	1,274	1,393	1,411	1,537	1,543
Astronomy	50	42	43	52	46	66	49	52	50	55	76
Astrophysics	65	56	57	57	54	64	64	76	75	79	69
Acoustics	14	21	10	15	17	16	15	21	13	18	27
Chemical and Atomic/Molecular	71	77	58	70	79	77	74	87	76	85	95
Electron	1	2	4	2	6	2	4	2	1	-	-
Elementary Particles	136	138	154	147	159	174	135	163	182	153	170
Fluids	15	11	16	6	21	17	14	17	14	17	19
Nuclear	90	72	86	89	74	88	81	73	66	86	81
Optics	50	53	51	58	50	65	78	76	85	94	96
Plasma and High-Temperature	72	73	55	61	72	65	61	42	58	65	62
Polymer	10	8	11	11	15	20	7	11	17	17	29
Solid State and Low-Temperature	222	258	248	280	287	252	296	306	372	408	335
Physics, General	150	170	176	222	238	271	269	323	247	297	340
Physics, Other	97	99	111	117	119	125	127	144	155	163	144
CHEMISTRY	1,759	1,765	1,836	1,903	1,975	2,015	1,970	2,100	2,193	2,214	2,139
Analytical	264	228	285	257	314	301	289	293	304	304	286
Inorganic	215	233	251	260	240	250	256	242	260	268	238
Nuclear	13	18	7	18	13	7	6	13	14	7	8
Organic	503	525	494	511	511	531	511	452	538	512	517
Medicinal/Pharmaceutical	78	56	60	58	65	73	64	48	82	68	98
Physical	311	329	304	293	302	318	310	325	364	399	337
Polymer	62	63	84	72	96	81	78	81	111	83	107
Theoretical	48	37	48	41	46	50	46	55	45	59	53
Chemistry, General	177	183	213	289	297	310	312	524	400	449	433
Chemistry, Other	88	93	90	104	91	94	98	67	75	65	62
EARTH, ATMOS., & MARINE SCI.	637	614	617	589	628	728	740	769	836	824	790
Atmospheric Physics and Chemistry	21	11	16	21	24	19	15	18	20	36	13
Atmospheric Dynamics	16	25	21	16	17	25	16	20	21	23	23
Meteorology	17	28	23	27	17	35	27	20	31	28	34
Atmos. Sci./Meteorology, General	16	5	10	7	16	14	14	23	26	27	22
Atmos. Sci./Meteorology, Other	27	12	10	7	13	10	15	2	10	6	7
Geology	105	124	111	118	114	144	165	166	192	166	197
Geochemistry	48	43	48	37	31	46	39	56	64	62	50
Geophysics and Seismology	75	68	92	89	75	83	87	91	117	108	101
Paleontology	17	35	23	16	21	24	17	21	24	25	21
Mineralogy, Petrology	24	28	28	17	24	19	36	26	36	29	9
Stratigraphy, Sedimentation	25	16	23	14	22	30	24	25	29	23	28
Geomorphology and Glacial Geology	10	9	13	11	18	9	10	14	18	12	16
Applied Geology	8	7	8	4	5	7	6	6	1	-	-
Geological & Related Sci., General	15	10	11	12	18	8	19	31	30	18	15
Geological & Related Sci., Other	21	25	11	12	29	31	28	28	33	31	17
Environmental Science	50	45	42	35	29	58	68	50	35	57	68
Hydrology and Water Resources	20	18	17	16	18	24	24	13	16	29	25
Oceanography	87	78	68	78	73	81	87	89	85	82	99
Marine Sciences	22	21	24	22	38	28	26	39	27	32	27
Misc. Physical Sciences, Other	13	6	18	30	26	33	17	31	21	30	18
ENGINEERING	2,781	2,913	3,166	3,376	3,712	4,187	4,543	4,894	5,215	5,439	5,696
Aerospace, Aeronautic. & Astronautic.	106	119	124	118	142	150	178	192	207	234	228
Agricultural	58	74	60	52	74	70	102	101	84	84	86
Bioengineering and Biomedical	74	70	69	67	75	114	115	129	149	147	171
Ceramic Sciences	24	25	19	25	42	30	35	43	58	42	42
Chemical	349	361	440	476	527	624	625	561	621	607	624
Civil	354	351	358	387	441	488	498	505	509	541	563
Communications	25	11	30	23	26	24	25	35	21	30	22
Computer	83	56	55	77	62	100	117	131	178	175	167

NOTE: Dash (-) indicates that the field was not on the questionnaire's Specialties List that year. Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix B.

	Year of Doctorate										
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Electrical, Electronics	517	593	631	706	691	886	995	1,110	1,206	1,278	1,353
Engineering Mechanics	68	91	89	94	113	105	110	111	113	132	128
Engineering Physics	10	8	12	13	13	9	16	16	23	25	21
Engineering Science	30	28	31	30	26	32	27	37	42	51	55
Environmental Health Engineering	43	57	33	42	36	43	40	48	66	54	61
Industrial/Manufacturing	86	84	92	101	120	127	162	151	165	196	236
Materials Science	157	168	188	187	238	252	257	307	361	365	416
Mechanical	311	336	424	442	544	610	650	773	762	855	901
Metallurgical	87	78	96	93	112	92	88	90	70	78	77
Mining and Mineral	22	16	16	22	27	17	33	39	38	26	24
Naval Architecture, Marine Eng.	4	5	8	9	7	9	9	8	5	-	-
Nuclear	103	120	96	98	84	104	86	114	107	120	108
Ocean	12	11	25	14	24	21	20	17	21	21	24
Operations Research	44	50	54	54	51	44	68	46	76	56	56
Petroleum	22	17	24	18	23	33	29	49	28	54	52
Polymer/Plastics	21	31	40	37	34	28	58	48	42	64	61
Systems	57	52	57	33	47	44	30	51	48	37	57
Engineering, General	30	29	26	55	54	49	61	75	78	64	47
Engineering, Other	84	72	69	103	79	82	109	107	137	103	116
LIFE SCIENCES	5,554	5,758	5,781	5,734	5,754	6,165	6,341	6,604	6,929	7,114	7,397
BIOLOGICAL SCIENCES	3,741	3,880	3,793	3,807	3,839	4,112	4,115	4,327	4,645	4,798	5,090
Biochemistry	647	606	581	576	573	613	669	678	765	715	845
Biophysics	88	90	69	72	86	97	87	103	100	125	103
Biotechnology Research	-	-	-	-	-	-	-	-	-	-	8
Bacteriology	10	12	17	12	13	7	11	15	11	13	14
Plant Genetics	19	20	31	20	26	26	18	31	23	33	41
Plant Pathology	29	30	38	28	33	30	22	37	50	32	41
Plant Physiology	67	70	58	52	62	74	47	51	65	68	48
Botany, Other	116	126	120	121	106	112	117	104	105	107	105
Anatomy	107	103	135	86	92	88	80	70	77	75	76
Biometrics and Biostatistics	45	49	40	30	37	47	46	47	59	63	74
Cell Biology	118	123	100	130	127	118	133	145	149	188	231
Ecology	183	202	200	183	158	155	161	166	189	180	176
Developmental Biology/Embryology	13	15	15	9	6	7	10	22	37	48	57
Endocrinology	28	30	17	17	19	21	21	24	33	27	16
Entomology	141	156	173	170	123	133	139	147	138	139	114
Biological Immunology	154	133	124	146	136	179	152	153	177	181	169
Molecular Biology	225	275	277	298	303	364	413	413	480	527	582
Microbiology	309	346	289	326	301	333	340	335	372	377	433
Neuroscience	134	145	156	120	153	163	181	192	238	238	275
Nutritional Sciences	111	109	113	122	141	127	128	118	106	132	134
Parasitology	9	30	21	25	16	20	20	13	20	17	17
Toxicology	60	97	99	104	115	108	111	91	86	105	99
Human and Animal Genetics	95	82	105	91	113	118	112	153	160	142	172
Human and Animal Pathology	97	88	110	91	127	112	105	101	122	114	130
Human and Animal Pharmacology	218	237	235	245	234	252	241	243	262	278	273
Human and Animal Physiology	246	237	245	240	248	225	272	278	272	266	271
Zoology, Other	192	158	147	155	139	167	132	122	125	134	114
Biological Sciences, General	174	190	190	213	229	256	231	333	278	315	308
Biological Sciences, Other	106	121	88	125	123	160	116	142	146	159	164
HEALTH SCIENCES	640	722	729	770	800	882	974	956	1,042	1,112	1,201
Speech-Lang. Pathology & Audiology	113	104	99	82	107	93	91	93	90	82	98
Environmental Health	38	40	31	39	29	52	35	38	38	44	38
Health Systems/Services Admin.	-	-	-	-	-	-	-	-	-	-	35
Public Health	54	53	103	103	96	121	129	123	132	157	155
Epidemiology	76	103	76	80	86	97	107	102	115	108	120
Nursing	126	161	183	216	218	247	308	261	326	338	373
Pharmacy	81	102	106	104	133	95	111	116	115	160	148
Rehabilitation/Therapeutic Services	-	-	-	-	-	-	-	-	17	25	36
Veterinary Medicine	45	46	51	41	31	48	48	70	56	63	61
Health Sciences, General	20	14	13	27	12	29	19	36	28	30	38
Health Sciences, Other	87	99	67	78	88	100	126	117	125	105	99
AGRICULTURAL SCIENCES	1,173	1,156	1,259	1,157	1,115	1,171	1,252	1,321	1,242	1,204	1,106
Agricultural Economics	158	159	148	160	139	156	164	145	168	141	137
Agricultural Business & Management	-	-	-	-	-	0	2	2	1	0	1
Animal Breeding and Genetics	25	28	28	25	23	27	23	22	18	23	18
Animal Nutrition	56	71	78	65	82	54	67	54	57	41	52
Dairy Science	-	-	-	-	-	12	16	20	19	14	11
Poultry Science	-	-	-	-	-	10	11	17	13	22	16
Fisheries Science and Management	36	45	36	31	32	42	34	42	39	26	38
Animal Sciences, Other	92	90	95	91	76	86	95	90	92	97	74
Agronomy and Crop Science	149	137	158	159	143	141	140	143	117	123	104
Plant Breeding and Genetics	71	78	88	78	70	83	64	87	69	82	68
Plant Pathology	92	57	89	85	76	46	63	64	90	63	58
Plant Protection-Pest Management	-	-	-	-	-	1	6	4	2	-	-
Plant Sciences, Other	16	20	21	22	20	23	15	23	17	29	28
Food Sciences	141	113	136	121	131	16	1	-	-	-	-
Food Engineering	-	-	-	-	-	6	11	10	12	14	9
Food Sciences, Other	-	-	-	-	-	119	147	141	137	151	140
Soil Sciences	85	99	97	103	74	18	-	-	-	-	-
Soil Chemistry/Microbiology	-	-	-	-	-	33	28	27	24	24	26
Soil Sciences, Other	-	-	-	-	-	62	75	91	78	63	59
Horticulture Science	72	66	76	60	71	61	75	101	78	65	62

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APPENDIX TABLE B-1 (Continued)

	Year of Doctorate										
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Wildlife Management	31	31	38	20	23	3	-	-	-	-	-
Forestry Science	90	94	105	88	100	15	-	-	-	-	-
Forest Biology	-	-	-	-	-	21	22	27	17	29	18
Forest Engineering	-	-	-	-	-	3	1	2	2	2	3
Forest Management	-	-	-	-	-	18	21	14	22	16	17
Wood Sci. and Pulp/Paper Tech.	-	-	-	-	-	7	16	16	16	21	20
Conservation/Renewable Nat. Res.	-	-	-	-	-	7	12	16	19	9	13
Forestry and Related Sci., Other	-	-	-	-	-	35	57	62	45	62	55
Wildlife/Range Management	-	-	-	-	-	36	52	58	59	55	54
Agricultural Sciences, General	7	1	5	4	5	9	7	5	3	9	10
Agricultural Sciences, Other	52	67	61	45	50	21	27	38	28	23	15
SOCIAL SCIENCES (INCL. PSYCH.)	6,095	5,929	5,765	5,893	5,790	5,781	5,961	6,094	6,152	6,217	6,545
Anthropology	373	335	353	381	352	325	325	324	341	320	342
Area Studies	20	23	19	28	17	16	17	22	24	33	36
Criminology	49	41	38	24	29	43	32	42	35	37	39
Demography/Population Studies	26	19	25	15	26	19	22	20	28	17	22
Economics	792	766	784	834	796	825	872	836	861	885	906
Econometrics	21	27	27	25	25	27	26	26	24	25	24
Geography	121	114	120	120	111	129	105	131	108	111	137
International Relations/Affairs	76	95	78	76	82	77	94	97	88	76	102
Political Science and Government	397	419	406	414	404	392	430	462	434	513	507
Public Policy Analysis	69	54	70	81	83	73	79	87	111	107	98
Sociology	525	515	461	491	423	449	436	428	465	495	513
Statistics	47	39	60	65	49	47	69	69	31	29	48
Urban Affairs/Studies	74	81	75	50	72	86	62	67	90	86	123
Social Sciences, General	17	17	17	36	30	28	26	23	36	33	32
Social Sciences, Other	141	127	114	127	118	171	158	178	226	186	197
PSYCHOLOGY	3,347	3,257	3,118	3,126	3,173	3,074	3,208	3,282	3,250	3,264	3,419
Clinical	1,241	1,195	1,181	1,173	1,214	1,095	1,259	1,338	1,305	1,310	1,372
Cognitive and Psycholinguistics	65	77	76	70	80	83	79	76	94	101	104
Comparative	11	13	11	14	9	7	8	8	7	2	5
Counseling	432	464	431	449	486	482	501	466	497	507	488
Developmental and Child	219	207	175	184	200	176	148	159	155	170	202
Experimental	209	169	165	147	146	135	146	143	142	154	143
Educational	154	210	127	106	89	103	105	98	110	91	91
Industrial and Organizational	90	106	102	110	107	118	104	126	142	138	158
Personality	32	25	21	16	25	18	28	20	13	17	22
Physiological/Psychobiology	94	73	79	73	69	85	62	46	45	55	85
Psychometrics	10	6	10	11	9	11	6	8	9	5	9
Quantitative	14	17	16	23	13	12	11	15	7	10	16
School	121	89	92	116	93	115	107	82	82	88	94
Social	191	157	167	141	133	140	128	145	147	139	125
Psychology, General	292	267	266	309	343	368	364	371	324	295	308
Psychology, Other	172	182	199	184	157	126	152	181	171	182	197
HUMANITIES	3,50x	3,536	3,429	3,461	3,500	3,556	3,553	3,822	4,098	4,443	4,481
History, American	224	240	176	197	198	209	206	211	251	277	269
History, European	168	150	143	121	121	127	107	151	127	176	162
History/Philosophy of Sci. & Tech.	13	24	23	24	25	22	20	26	27	28	37
History, General	58	76	85	83	94	103	85	111	121	103	117
History, Other	153	127	116	138	148	142	120	113	137	141	143
Classics	44	57	44	51	55	56	51	58	55	58	61
Comparative Literature	124	133	133	101	121	139	103	97	150	163	153
Linguistics	164	160	176	189	199	166	188	167	227	266	214
Speech and Rhetorical Studies	48	41	38	30	37	37	35	38	86	98	111
Letters, General	3	14	13	19	25	16	13	19	17	18	18
Letters, Other	19	31	26	37	39	43	60	52	44	38	37
American Studies	99	76	87	68	75	70	76	72	92	81	101
Archeology	30	31	24	28	31	23	26	22	33	33	38
Art History/Criticism/Conservation	150	141	137	126	143	134	145	135	125	154	158
Music	391	445	447	476	499	505	522	572	589	641	616
Philosophy	241	215	238	248	233	222	270	243	285	279	274
Religion	177	183	181	182	182	217	215	219	187	231	255
Drama/Theater Arts	108	101	92	88	82	92	79	106	91	95	91
LANGUAGE AND LITERATURE	1,219	1,225	1,164	1,164	1,112	1,147	1,152	1,308	1,350	1,465	1,525
American	173	190	204	215	190	186	192	229	253	291	293
English	542	543	525	504	478	531	528	567	599	612	655
French	121	108	86	102	103	101	106	123	100	124	137
German	77	80	62	79	77	76	73	78	71	96	105
Italian	22	17	14	15	21	14	20	25	32	20	19
Spanish	161	144	145	122	133	137	134	173	173	179	180
Russian	24	33	28	28	19	13	13	19	25	28	28
Slavic	9	12	10	8	5	5	7	7	14	15	13
Chinese	16	13	14	13	13	12	9	16	19	20	21
Japanese	5	12	13	9	9	6	13	9	7	12	11
Hebrew	11	13	9	11	13	12	10	14	11	20	15
Arabic	8	8	5	9	8	14	6	7	4	12	10
Other Language and Literature	50	52	49	49	43	40	41	41	42	36	38
Humanities, General	17	22	27	23	23	25	19	28	29	21	30
Humanities, Other	50	44	59	68	58	61	61	74	75	77	71

NOTE: Dash (-) indicates that the field was not on the questionnaire's Specialties List that year. Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix B.

	Year of Doctorate										
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
EDUCATION	7,174	6,808	6,733	6,646	6,450	6,359	6,278	6,511	6,442	6,640	6,647
Curriculum and Instruction	861	869	825	794	762	815	841	839	807	899	853
Educational Admin. and Supervision	1,632	1,569	1,625	1,637	1,686	1,749	1,632	1,663	1,428	1,287	1,339
Educational Leadership	-	-	-	1	-	-	-	1	483	681	762
Educ./Instruct. Media Design	88	83	101	79	68	67	76	55	73	62	95
Educ. Stat./Research Methods	86	105	74	58	73	51	59	59	80	61	64
Educ. Assess., Test., & Meas.	51	56	44	47	37	55	42	40	32	45	23
Educational Psychology	274	233	388	330	320	323	301	323	323	346	288
School Psychology	88	110	102	92	95	98	85	87	90	88	86
Social/Phil. Found. of Educ.	142	151	135	124	114	122	110	86	109	101	108
Special Education	349	312	270	273	248	257	259	225	226	260	276
Counseling Educ./Couns. & Guidance		506	391	397	315	315	324	264	301	270	289
Educ. Eval. & Res./Higher Educ.	635	657	589	612	570	399	373	424	344	380	359
Pre-elementary/Early Childhood	63	54	65	86	73	83	63	42	85	98	97
Elementary Education	111	97	122	94	105	93	99	110	73	73	65
Junior High Education	1	0	1	0	1	1	-	-	-	-	-
Secondary Education	87	62	68	86	65	67	53	56	40	28	33
Adult and Continuing Education	221	218	207	223	203	229	236	211	210	208	233
TEACHING FIELDS	1,327	1,170	1,118	1,142	1,064	988	968	923	970	1,006	940
Agricultural Education	47	47	40	39	39	32	35	38	49	43	54
Art Education	58	41	43	43	52	42	39	44	28	46	38
Business Education	62	52	52	50	36	44	40	34	32	16	27
English Education	76	72	68	79	72	57	51	52	58	61	53
Foreign Languages Education	25	25	30	37	37	53	33	31	46	50	48
Health Education	99	93	89	81	91	86	100	95	78	98	82
Home Economics Education	25	26	21	17	17	17	19	10	21	12	14
Technical/Industrial Arts Education	19	27	13	20	24	11	17	18	13	11	16
Mathematics Education	62	64	65	72	74	56	69	65	73	62	69
Music Education	112	92	81	94	109	76	97	78	96	96	80
Nursing Education	17	21	21	40	36	34	29	24	18	29	19
Physical Education and Coaching	235	219	220	210	192	184	176	191	185	167	161
Reading Education	169	142	113	134	94	74	95	82	102	121	95
Science Education	78	77	88	65	63	67	48	72	72	73	73
Social Science Education	39	22	24	22	17	23	13	11	19	19	9
Speech Education	2	10	7	5	5	5	1	5	1	-	-
Technical Education	-	-	-	-	-	13	28	15	25	35	21
Trade and Industrial Education	138	117	82	86	68	67	47	18	17	11	24
Teacher Ed./Spec. Acad. & Voc., Other	64	23	61	48	38	47	31	40	37	56	57
Education, General	349	311	294	354	366	358	414	535	421	426	410
Education, Other	303	360	308	299	285	280	403	531	378	332	329
PROFESSIONAL/OTHER FIELDS	1,752	1,941	1,893	1,982	2,131	2,142	2,193	2,284	2,402	2,498	2,492
BUSINESS AND MANAGEMENT	750	869	790	902	982	1,033	1,067	1,036	1,163	1,248	1,280
Accounting	163	164	150	157	161	175	186	172	172	180	183
Banking/Financial Support Services	94	123	104	126	156	148	151	134	172	172	170
Business Admin. and Management	179	175	174	222	225	265	245	277	204	241	323
Business/Managerial Economics	25	30	20	28	26	27	27	21	19	21	33
Mgmt. Info. Sys./Business Data Proc.	-	-	-	-	-	-	-	-	72	103	101
Marketing Management and Research	73	126	94	110	113	126	130	120	134	139	166
Business Statistics	8	7	9	3	8	6	15	10	5	-	-
Operations Research	38	46	45	46	64	50	52	46	58	67	63
Organizational Behavior	53	70	68	57	66	74	95	64	72	81	73
Business Mgmt./Admin. Serv., General	35	49	49	56	75	75	57	70	123	112	88
Business Mgmt./Admin. Serv., Other	82	79	77	97	88	87	109	122	132	132	80
COMMUNICATIONS	250	255	266	258	309	247	306	323	332	330	322
Communications Research	51	66	55	79	90	72	85	87	72	45	33
Journalism	20	17	22	18	7	21	15	21	7	-	-
Mass Communications	-	-	-	-	-	-	-	-	68	85	117
Radio and Television	27	20	19	13	16	12	29	17	6	-	-
Communication Theory	-	-	-	-	-	-	-	-	25	47	41
Communications, General	60	68	89	75	102	70	79	86	70	76	69
Communications, Other	92	84	81	73	94	72	98	112	84	77	62
OTHER PROFESSIONAL FIELDS	730	802	812	796	778	812	766	858	836	880	863
Architectural Environmental Design	34	25	36	27	33	31	43	41	67	60	54
Home Economics	79	107	90	88	67	58	55	74	29	58	57
Law	19	24	25	31	29	33	26	34	23	20	29
Library Science	51	68	71	57	48	57	60	42	52	51	70
Parks/Recreation/Leisure/Fitness	-	-	-	-	-	-	-	-	-	-	44
Public Administration	113	127	112	88	78	92	97	88	107	108	116
Social Work	190	231	220	235	214	241	206	246	240	248	237
Theology/Religious Education	227	212	240	240	254	251	232	271	273	292	240
Professional Fields, General	0	2	0	0	1	2	0	3	3	1	1
Professional Fields, Other	17	6	18	30	54	47	47	59	42	42	15
OTHER FIELDS	22	15	25	26	62	50	54	67	71	40	27

SOURCE: National Research Council, Survey of Earned Doctorates.

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APPENDIX TABLE B-2 Number of Doctorate Recipients, by Gender, Race/Ethnicity, and Citizenship, 1978 and 1983-1993

Total All Doctorates

	Year of Doctorate											
	1978	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
TOTAL MEN AND WOMEN	30,875	31,282	31,337	31,298	31,899	32,367	33,499	34,324	36,068	37,517	38,853	39,754
U.S. Citizens	25,291	24,359	24,027	23,370	23,083	22,983	23,290	23,400	24,906	25,559	25,975	26,386
Permanent Visas	1,344	1,275	1,224	1,324	1,433	1,578	1,622	1,626	1,698	1,856	1,978	2,250
Temporary Visas	3,421	4,499	4,832	5,228	5,276	5,610	6,194	6,646	8,093	9,309	9,950	9,923
Unknown Citizenship	819	1,149	1,254	1,376	2,107	2,196	2,393	2,652	1,371	793	950	1,195
Total Known Race/Ethnicity	28,451	29,398	29,280	29,058	28,924	29,216	30,345	30,940	33,868	35,751	37,128	38,194
U.S. Citizens	23,778	23,739	23,423	22,848	22,653	22,504	22,900	23,014	24,525	25,063	25,601	26,152
Permanent Visas	1,313	1,249	1,194	1,291	1,357	1,509	1,545	1,564	1,636	1,794	1,901	2,216
Temporary Visas	3,246	4,254	4,509	4,848	4,837	5,141	5,838	6,293	7,555	8,783	9,531	9,661
Unknown Citizenship	114	156	154	71	77	62	62	69	152	111	95	165
Native Americans	61	82	74	96	100	116	94	94	97	132	152	120
U.S. Citizens	60	81	74	96	99	115	94	94	96	130	149	119
Permanent Visas*	0	1	0	0	0	0	0	0	0	2	0	0
Temporary Visas*	1	0	0	0	1	1	0	0	1	0	2	1
Unknown Citizenship	0	0	0	0	0	0	0	0	0	0	1	0
Asians	2,394	3,125	3,394	3,642	3,727	4,126	4,778	5,181	6,291	7,521	8,276	8,653
U.S. Citizens	390	492	512	516	530	542	614	626	641	786	837	891
Permanent Visas	642	551	507	553	528	625	621	635	664	741	914	1,118
Temporary Visas	1,311	2,007	2,295	2,526	2,645	2,933	3,516	3,903	4,930	5,946	6,504	6,595
Unknown Citizenship	51	75	80	47	24	26	27	17	56	48	21	49
Blacks	1,381	1,384	1,494	1,440	1,270	1,218	1,263	1,246	1,349	1,458	1,421	1,606
U.S. Citizens	1,031	922	953	912	823	768	814	821	898	1,003	961	1,106
Permanent Visas	73	83	102	131	126	139	152	141	149	155	143	169
Temporary Visas	269	365	419	395	313	305	291	273	290	293	310	319
Unknown Citizenship	8	14	20	2	8	6	6	11	12	7	7	12
Hispanics	861	969	916	1,000	1,056	1,054	1,048	1,062	1,228	1,318	1,400	1,429
U.S. Citizens	486	539	534	561	572	617	595	581	721	731	778	834
Permanent Visas	67	69	71	73	107	91	98	112	116	136	130	138
Temporary Visas	293	342	300	360	372	338	349	363	386	445	481	453
Unknown Citizenship	15	19	11	6	5	8	6	6	5	6	11	4
Whites	23,754	23,838	23,402	22,880	22,771	22,702	23,162	23,357	24,903	25,322	25,879	26,386
U.S. Citizens	21,811	21,705	21,350	20,763	20,629	20,462	20,783	20,892	22,169	22,413	22,876	23,202
Permanent Visas	531	545	514	534	596	654	674	676	707	760	714	791
Temporary Visas	1,372	1,540	1,495	1,567	1,506	1,564	1,682	1,754	1,948	2,099	2,234	2,293
Unknown Citizenship	40	48	43	16	40	22	23	35	79	50	55	100
Unknown Race/Ethnicity	2,424	1,884	2,057	2,240	2,975	3,151	3,154	3,384	2,200	1,766	1,725	1,560
U.S. Citizens	1,513	620	604	522	430	479	390	386	381	496	374	234
Permanent Visas	31	26	30	33	76	69	77	62	62	62	77	34
Temporary Visas	175	245	323	380	439	469	356	353	538	526	419	262
Unknown Citizenship	705	993	1,100	1,305	2,030	2,134	2,331	2,583	1,219	682	855	1,030

NOTE: The reader is referred to the explanatory note about this table in front of Appendix B.

*In most cases, non-U.S. Native Americans are citizens of Canada or of Latin America.

Doctorates: MEN

	Year of Doctorate											
	1978	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
TOTAL MEN	22,553	20,749	20,638	20,554	20,594	20,939	21,681	21,812	22,962	23,647	24,433	24,646
U.S. Citizens	17,936	15,120	14,730	14,223	13,637	13,575	13,725	13,396	14,166	14,376	14,500	14,484
Permanent Visas	1,052	953	892	999	1,068	1,117	1,164	1,139	1,190	1,224	1,291	1,461
Temporary Visas	2,966	3,872	4,134	4,395	4,414	4,722	5,133	5,442	6,632	7,516	7,960	7,857
Unknown Citizenship	599	804	882	937	1,475	1,525	1,659	1,835	974	531	582	844
Total Known Race/Ethnicity	20,747	19,377	19,131	18,944	18,432	18,673	19,405	19,395	21,336	22,343	23,142	23,495
U.S. Citizens	16,822	14,676	14,303	13,858	13,338	13,248	13,445	13,112	13,899	14,017	14,234	14,312
Permanent Visas	1,029	931	867	971	1,004	1,064	1,097	1,094	1,150	1,176	1,233	1,436
Temporary Visas	2,817	3,649	3,844	4,057	4,037	4,313	4,820	5,139	6,172	7,076	7,611	7,645
Unknown Citizenship	79	121	117	58	53	48	43	50	115	74	64	102
Native Americans	51	51	54	40	59	63	52	49	52	74	82	61
U.S. Citizens	50	50	54	40	58	62	52	49	52	74	82	60
Permanent Visas*	0	1	0	0	0	0	0	0	0	0	0	0
Temporary Visas*	1	0	0	0	1	1	0	0	0	0	0	1
Unknown Citizenship	0	0	0	0	0	0	0	0	0	0	0	0
Asians	1,972	2,543	2,780	2,945	3,040	3,349	3,843	4,154	5,030	5,875	6,422	6,605
U.S. Citizens	287	312	338	329	347	369	414	441	427	481	528	554
Permanent Visas	531	431	389	437	417	455	456	459	482	488	603	726
Temporary Visas	1,114	1,732	1,982	2,137	2,258	2,505	2,955	3,241	4,076	4,870	5,273	5,287
Unknown Citizenship	40	68	71	42	18	20	18	13	45	36	18	38
Blacks	900	835	903	851	707	701	697	684	731	784	765	839
U.S. Citizens	582	413	427	379	323	317	315	327	351	417	392	440
Permanent Visas	65	73	81	117	106	118	126	125	128	131	122	138
Temporary Visas	251	341	382	354	275	261	251	222	242	232	245	250
Unknown Citizenship	2	8	13	1	3	5	5	10	10	4	6	11
Hispanics	649	635	620	646	665	677	678	662	760	805	858	872
U.S. Citizens	330	288	313	300	302	332	321	307	380	370	410	422
Permanent Visas	54	45	47	50	71	50	64	69	69	88	71	93
Temporary Visas	254	288	252	294	289	288	288	283	309	343	370	356
Unknown Citizenship	11	14	8	2	3	7	5	3	2	4	7	1
Whites	17,175	15,313	14,774	14,462	13,961	13,883	14,135	13,846	14,763	14,805	15,015	15,118
U.S. Citizens	15,573	13,613	13,171	12,810	12,308	12,168	12,343	11,988	12,689	12,675	12,822	12,836
Permanent Visas	379	381	350	367	410	441	451	441	471	469	437	479
Temporary Visas	1,197	1,288	1,228	1,272	1,214	1,258	1,326	1,393	1,545	1,631	1,723	1,751
Unknown Citizenship	26	31	25	13	29	16	15	24	58	30	33	52
Unknown Race/Ethnicity	1,806	1,372	1,507	1,610	2,162	2,266	2,276	2,417	1,626	1,304	1,291	1,151
U.S. Citizens	1,114	444	427	365	299	327	280	284	267	359	266	172
Permanent Visas	23	22	25	28	64	53	67	45	40	48	58	25
Temporary Visas	149	223	290	338	377	409	313	303	460	440	349	212
Unknown Citizenship	520	683	765	879	1,422	1,477	1,616	1,785	859	457	618	742

APPENDIX TABLE B-2 (Continued)

Doctorates: WOMEN

	Year of Doctorate											
	1978	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
TOTAL WOMEN	8,322	10,533	10,699	10,744	11,305	11,428	11,818	12,512	13,106	13,870	14,420	15,108
U.S. Citizens	7,355	9,239	9,297	9,147	9,446	9,408	9,565	10,004	10,740	11,183	11,475	11,902
Permanent Visas	292	322	332	325	365	461	458	487	508	632	687	789
Temporary Visas	455	627	698	833	862	888	1,061	1,204	1,461	1,793	1,990	2,066
Unknown Citizenship	220	345	372	439	632	671	734	817	397	262	268	351
Total Known Race/Ethnicity	7,704	10,021	10,149	10,114	10,492	10,543	10,940	11,545	12,532	13,408	13,986	14,699
U.S. Citizens	6,956	9,063	9,120	8,990	9,315	9,256	9,455	9,902	10,626	11,046	11,367	11,840
Permanent Visas	284	318	327	320	353	445	448	470	486	618	668	780
Temporary Visas	429	605	665	791	800	828	1,018	1,154	1,383	1,707	1,920	2,016
Unknown Citizenship	35	35	37	13	24	14	19	19	37	37	31	63
Native Americans	10	31	20	56	41	53	42	45	45	58	70	59
U.S. Citizens	10	31	20	56	41	53	42	45	44	56	67	59
Permanent Visas*	0	0	0	0	0	0	0	0	0	2	0	0
Temporary Visas*	0	0	0	0	0	0	0	0	1	0	2	0
Unknown Citizenship	0	0	0	0	0	0	0	0	0	0	1	0
Asians	422	582	614	697	687	777	935	1,027	1,261	1,646	1,854	2,048
U.S. Citizens	103	180	174	187	183	173	200	185	214	305	309	337
Permanent Visas	111	120	118	116	111	170	165	176	182	253	311	392
Temporary Visas	197	275	313	389	387	428	561	662	854	1,076	1,231	1,308
Unknown Citizenship	11	7	9	5	6	6	9	4	11	12	3	11
Blacks	481	549	591	589	563	517	566	562	618	674	656	767
U.S. Citizens	449	509	526	533	500	451	499	494	547	586	569	666
Permanent Visas	8	10	21	14	20	21	26	16	21	24	21	31
Temporary Visas	18	24	37	41	38	44	40	51	48	61	65	69
Unknown Citizenship	6	6	7	1	5	1	1	1	2	3	1	1
Hispanics	212	334	296	354	391	377	370	400	468	513	542	557
U.S. Citizens	156	251	221	261	270	285	274	274	341	361	368	412
Permanent Visas	13	24	24	23	36	41	34	43	47	48	59	45
Temporary Visas	39	54	48	66	83	50	61	80	77	102	111	97
Unknown Citizenship	4	5	3	4	2	1	1	3	3	2	4	3
Whites	6,579	8,525	8,628	8,418	8,810	8,819	9,027	9,511	10,140	10,517	10,864	11,268
U.S. Citizens	6,238	8,092	8,179	7,953	8,321	8,294	8,440	8,904	9,480	9,738	10,054	10,366
Permanent Visas	152	164	164	167	186	213	223	235	236	291	277	312
Temporary Visas	175	252	267	295	292	306	356	361	403	468	511	542
Unknown Citizenship	14	17	18	3	11	6	8	11	21	20	22	48
Unknown Race/Ethnicity	618	512	550	630	813	885	878	967	574	462	434	409
U.S. Citizens	399	176	177	157	131	152	110	102	114	137	108	62
Permanent Visas	8	4	5	5	12	16	10	17	22	14	19	9
Temporary Visas	26	22	33	42	62	60	43	50	78	86	70	50
Unknown Citizenship	185	310	335	426	608	657	715	798	360	225	237	288

NOTE: The reader is referred to the explanatory note about this table in front of Appendix B.

*In most cases, non-U.S. Native Americans are citizens of Canada or of Latin American countries.

SOURCE: National Research Council, Survey of Earned Doctorates.

APPENDIX C: Technical Notes

*** IMPORTANT NOTICE ***

The estimates reported for the Survey of Earned Doctorates (SED) are simple tabulations of all available information, with no adjustment for nonresponse. Thus, differences in response rates from year to year can produce numerical fluctuations that are unrelated to true trends.

Response to the SED has been 95 to 98 percent over the years, except during the 1980s when it gradually declined to 92 percent. In an effort to improve the response rate, the survey methodology has undergone some revision in the years since 1989. Response has risen as hoped, stabilizing at 95 percent during the last three years (1991 to 1993). (Note: These percentages represent *self-report rates*, i.e., the proportion of survey forms completed by doctorate recipients. Questionnaires filled in with partial information by either the doctoral institution or staff of the National Research Council are not included in these self-report rates *but are* included in tabulations in this report.) The self-report rate for 1993 may increase somewhat in the next year if additional questionnaires are received from doctorate recipients. See page 82 for a table giving survey response rates from 1980 to 1993.

Item response rates have shown a parallel improvement since 1990—a natural consequence of the increase in the overall self-report rate, as well as a result of format revisions to the questionnaire and follow-ups for missing information. In 1990, new follow-up procedures were implemented, increasing coverage of several variables (birth year, gender, race/ethnicity, citizenship status, country of citizenship, baccalaureate year and institution, and postgraduation plans). Response rates for these variables have thus improved—especially for citizenship and race/ethnicity, resulting in an increase in the reported numbers of minority Ph.D.s. Postsurvey adjustment to data was greatest in 1990 and 1991, with the largest impact on the number of black Ph.D.s. For both of these years, the total number of black Ph.D.s increased by about 7.5 percent in the year after survey closure. Postsurvey adjustments were much smaller for 1992 data (a 1.4 percent increase in black Ph.D.s) because the survey cycle was extended a month to allow receipt of additional follow-up information before closure; the same is expected for 1993 data.

All adjustments to data are presented in reports subsequent to the initial report for a survey. Thus, updates for 1990 appeared in *Summary Report 1991*; those for 1991 appeared in *Summary Report 1992*; and those for 1992 are included in this year's report (see Appendix Table B-2). The data for 1993 will likewise be subject to further revision, but as for 1992, adjustments are expected to be minimal. Updates to 1993 data will be presented in next year's report.

In using SED data, the reader should keep in mind that numerical trends are affected by fluctuations in response rates. Increasing or decreasing numbers in a citizenship or racial/ethnic group reflect to some degree any upward or downward change in both overall survey response and item response.

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SED RESPONSE RATES *

Year	Self-Report Rate	Nonresponse Rate: Basic Information Provided by: Institution**	Nonresponse Rate: Basic Information Provided by: NRC/OSEP**
1980	96.2	1.6	2.1
1981	95.7	1.4	2.8
1982	95.3	1.5	3.2
1983	95.5	1.6	3.0
1984	95.1	1.8	3.1
1985	94.8	2.5	2.7
1986	93.5	0.9	5.6
1987	93.1	0.9	6.0
1988	92.9	0.3	6.8
1989	92.3	0.4	7.4
1990	93.6	0.3	6.1
1991	94.6	0.6	4.9
1992	95.1	0.6	4.3
1993	94.6	0.5	4.9

* These rates may not sum to 100.0 because of rounding. The rates for 1980-1992 reflect late responses. The self-report rate for 1993 may increase somewhat in the next year if additional questionnaires are received from doctorate recipients.

** The National Research Council's Office of Scientific and Engineering Personnel (NRC/OSEP) enters information from commencement programs, such as name, Ph.D. field and year, and earlier educational history if available. Gender is assumed from the name of the recipient wherever possible. Institutions provide similar information and, occasionally, other demographic variables such as citizenship and race/ethnicity.

As shown on the previous page, 94.6 percent of all doctorate recipients in 1993 completed survey forms; this percentage is referred to as the "self-report" rate. For the remaining 5.4 percent of recipients, "skeletal" forms were created using information from doctorate-granting institutions or commencement programs. Whether or not individuals completed the survey questionnaire, the following four data items are available for all recipients: gender, Ph.D. institution, Ph.D. field, and Ph.D. year.

This report presents data obtained from *all* survey forms, both self-reported and skeletal. The reader should note that nonresponse in a tabulation varies according to the *combination* of selected variables. Higher nonresponse rates occur when any of the four above-mentioned variables are cross-tabulated with another variable (e.g., educational debt) because the universe consists of the entire doctoral cohort. In other words, the 5.4 percent of Ph.D.s who did not respond to the survey are included, even though their records contain minimal information. Nonresponse is generally lower when citizenship or race/ethnicity is cross-tabulated with a variable such as debt because the population is restricted to a group (e.g., U.S. citizens) largely drawn from self-reported forms and thus more likely to have responses to the debt question. To be more precise, information on debt was not available for only 3.9 percent of U.S. citizens in 1993; nonresponse was low because information on both citizenship and debt was obtained mostly from self-reported forms. Nonresponse was higher for the entire 1993 cohort (7.3 percent) because it included the 5.4 percent of forms that were only partially filled in by institutions or staff of the National Research Council. The same was true for men (7.6 percent) and women (6.8 percent) because gender was known even for Ph.D.s who did not complete a survey form. Cross-tabulating debt with field of doctorate would yield similarly high nonresponse rates because Ph.D. field is available for all recipients.

For the most part, the tables and figures in this report display percentages that are based only on the number of doctorate recipients who *responded* to the applicable survey questions; recipients who did not respond are excluded.[1] The technical notes in this appendix provide rates of *nonresponse* for questions covered in the body of the report. Rates for selected populations and years are presented, along with descriptive explanations of the data as needed. There are six technical notes in all, pertaining to the following tables and figures and focusing on the topics indicated in parentheses:

Technical Note 1: Figures 2 and 6, Tables 3 and 4 (citizenship)
Technical Note 2: Figures 3 and 7, Tables 5-7 (race/ethnicity)
Technical Note 3: Figures 8 and 9, Tables 9 and 10 (time-to-doctorate)
Technical Note 4: Figure 10, Table 11 (primary source of graduate school support)
Technical Note 5: Figure 11, Tables 12 and 13 (educational debt)
Technical Note 6: Figures 12-14, Tables 14-19 (postgraduation plans)

[1] Appendix Tables A-3 and A-4 are exceptions. Because these tables include categories for "unknown" responses, percentages are based on the total doctoral cohort.

The 1993 *nonresponse* rates for items discussed in this report are shown below.

ITEM NONRESPONSE RATES: 1993

Data Item	Nonresponse Rate (%)
Baccalaureate Field	8.2
Baccalaureate Institution	3.7*
Baccalaureate Year (for time-to-Ph.D.)	4.4*
Birth Year (for age)	2.7*
Citizenship	3.0*
Country of Citizenship	1.4 (of non-U.S. citizens)
Debt	7.3
Doctorate Field	0.0
Doctorate Institution	0.0
Doctorate Year	0.0
Gender	0.0
Marital Status	8.6
Master's Institution	21.5 (includes non-M.A.s)
Postdoctoral Employer Type	6.5 (of employed Ph.D.s)
Postdoctoral Location	6.3
Postdoctoral Plans (employment vs. study)	8.0
Postdoctoral Status (definite vs. seeking)	8.3
Race/Ethnicity	3.4*
Sources of Graduate School Support	6.1
Primary Source of Graduate School Support	33.9
Year of Graduate Entry into Ph.D. Institution	13.2
Years Not Enrolled from (for time-to-Ph.D.):	
Baccalaureate to Graduate Entrance	11.5
Graduate Entrance to Doctorate	17.0

NOTE: In 1993, 94.6 percent of new doctorate recipients completed the survey form. The item nonresponse rates in this table include the 5.4 percent of recipients who were not self-reporting. Basic information for the missing group was obtained from the doctorate-granting institutions or commencement programs. Field, institution, and year of doctorate are available for all recipients, as is gender.

* The nonresponse rate for this item is less than the overall nonresponse rate of 5.4 percent because institutions are asked to provide this information for doctorate recipients who either did not complete a survey form or did not respond to the survey question. Commencement programs are an additional source of baccalaureate institution data.

1. Figures 2 and 6; Tables 3 and 4: Percentages in **Figure 6** are based on the number of doctorate recipients who reported their citizenship status. Nonresponses are excluded from the computations (see below).

Citizenship Status: Nonresponse Rates (%)

	1963	1968	1973	1978	1983	1988	1993
All Ph.D.s	1.6	1.7	2.0	2.7	3.7	7.1	3.0
Physical Sciences	2.1	2.0	1.8	2.1	3.1	6.3	3.1
Engineering	1.1	1.4	1.3	2.8	4.6	7.6	3.9
Life Sciences	0.8	1.1	1.7	2.5	2.7	6.2	2.2
Social Sciences	2.3	2.1	2.0	3.7	[illegible]	8.6	3.1
Humanities	2.0	1.8	2.1	2.7	4.0	6.8	3.0
Education	0.7	1.4	1.6	2.2	3.1	6.4	2.7
Professional/Other	2.7	3.7	6.1	2.3	4.5	9.7	3.5

NOTE: See Table 3 for total numbers of Ph.D.s in each field. Refer to page [illegible] for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

Table 3 displays the numbers of Ph.D.s in each citizenship group. See the table above for rates of nonresponse to the question on citizenship status. **Table 4** lists the leading countries of origin of non-U.S. Ph.D.s. Of the 12,173 non-U.S. Ph.D.s in 1993, 172 (or 1.4 percent) did not report their country of citizenship.

2. Figures 3 and 7; Tables 5-7: Figure 3 compares the representation of minorities among U.S. citizen Ph.D.s in 1993 with their representation in 1978. Nonresponses are excluded from the percentage computations. The nonresponse rate among U.S. citizens to the question on race/ethnicity was 6.0 percent in 1978 and 0.9 percent in 1993. Nonresponse to race/ethnicity for the 1989-1993 period shown in **Tables 6 and 7** was 1.5 percent. Note that response has improved since 1990, when race/ethnicity was first followed up if not reported on the survey form. (See Appendix Table B-2 for total numbers of U.S. Ph.D.s; see technical note 1 for rates of nonresponse to citizenship status.)

Table 5 distributes the U.S. racial/ethnic groups in 1993 among the major fields. **Figure 7** shows the percentage of whites versus minorities in each broad field. Rates of nonresponse to race/ethnicity by broad field are given on the next page. A historical discussion of the racial/ethnic question and ***important information on recent adjustments to racial/ethnic data*** follow the nonresponse tables.

2. Figures 3 and 7; Tables 5-7 (continued)

Race/Ethnicity: Nonresponse Rates (%)

	1993
All Ph.D.s	0.9
Physical Sciences	1.2
Engineering	0.9
Life Sciences	0.9
Social Sciences	0.7
Humanities	1.2
Education	0.5
Professional/Other	1.1

NOTE: See Table 5 for total numbers of Ph.D.s in each field. Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

History of the racial/ethnic question: Although the item on race/ethnicity was first introduced to the Survey of Earned Doctorates in 1973, over 25 percent of recipients in 1973 and about 13 percent in 1974 either completed earlier questionnaires or provided unusable responses. The racial/ethnic data have been more reliable since 1975, with response rates ranging between 91 and 97 percent. The information on race/ethnicity presented in this report is limited to the period 1978 to 1993.

The racial/ethnic question has undergone several revisions over the years. In 1977, it was modified to correspond to a standard question format recommended by the Federal Interagency Committee on Education and adopted by the Office of Management and Budget (OMB) for use in federally sponsored surveys; an explanation of the effect of these changes is detailed on page 13 of *Summary Report 1977*. (Note: Changes in the OMB guidelines prompted the reclassification of persons having origins in the Indian subcontinent from the white category to the Asian category.) In 1980, the question was further revised in two ways: (1) the Hispanic category was subdivided into Puerto Rican, Mexican American, and other Hispanic to provide more detail for users of the racial/ethnic data, and (2) respondents were asked to check only one racial category. (Before 1980, doctorate recipients could check more than one category to indicate their race.) The item was modified again in 1982 to separate the questions on race and ethnicity. Since then, respondents have been asked to first check one of the four racial group categories (American Indian, Asian, black, or white) and then indicate whether or not they are Hispanic. In this report, Ph.D.s who reported Hispanic heritage are classified as Hispanic regardless of their racial designations; the remaining Ph.D.s are then counted in the respective racial groups. (Note: Doctorate recipients who checked the category "American Indian or Alaskan Native" are identified as "Native American" in this report.)

2. Figures 3 and 7; Tables 5-7 (continued)

*** ADJUSTMENTS TO RACIAL/ETHNIC DATA ***

The reader should keep in mind that increasing or decreasing numbers in a racial/ethnic group reflect to some degree any upward or downward change in both overall survey response and item response.

In 1990, new follow-up procedures were implemented to increase coverage of several variables, including race/ethnicity. Response rates to the racial/ethnic questions have since improved, resulting in greater postsurvey adjustment than in previous years. The largest impact was on the number of black Ph.D.s in 1990 and 1991. For both of these years, the total number of black Ph.D.s increased by about 7.5 percent in the year after survey closure. Postsurvey adjustments were much smaller for 1992 data (a 1.4 percent increase in black Ph.D.s) because the survey cycle was extended to allow receipt of additional follow-up responses; the same is expected for 1993 data.

Updated numbers for 1990-1992 are included in Appendix Table B-2 in this report. Adjustments to the 1993 data will appear in next year's report. See the notice on page 81 for additional information.

3. Figures 8 and 9; Tables 9 and 10: *Registered time-to-degree (RTD)* measures the actual time in attendance at colleges and universities between receipt of the baccalaureate and the doctorate; enrollment may include years of attendance not related to a recipient's doctoral program. RTD cannot be computed for individuals who have not provided all years of college attendance after earning the baccalaureate. *Total time-to-degree (TTD)* measures the elapsed time from baccalaureate to doctorate (including time not enrolled in school). TTD can be computed only for individuals whose baccalaureate year is known. (Note: Baccalaureate year is often obtained from commencement programs or doctorate institutions when not reported by the recipient.)

Months are excluded from all computations because they are rarely reported by the respondent. Nonresponse rates for the two measures of time-to-degree are presented on the next page.

3. Figures 8 and 9; Tables 9 and 10 (continued)

Time-to-Doctorate: Nonresponse Rates (%)

(Figures 8 and 9, Tables 9 and 10)	1963 RTD	1963 TTD	1973 RTD	1973 TTD	1983 RTD	1983 TTD	1993 RTD	1993 TTD
All Fields	5.8	0.6	8.2	1.8	11.6	3.6	17.0	4.4
Physical Sciences	4.8	0.2	7.1	1.5	9.9	3.0	16.5	4.2
Engineering	4.9	0.1	7.7	2.4	14.0	5.9	15.7	4.8
Life Sciences	6.2	2.3	9.7	3.4	10.0	3.8	20.4	5.4
Social Sciences	5.9	0.2	7.7	1.2	11.8	3.9	16.6	4.1
Humanities	7.1	0.4	8.7	1.6	12.0	3.5	15.9	3.9
Education	5.3	0.0	7.7	0.7	12.2	2.6	16.2	3.6
Professional/Other	8.6	1.3	11.0	4.3	13.0	3.8	16.8	4.8
(Table 10, 1993 only)								
All Ph.D.s							17.0	4.4
Men							17.5	4.9
Women							16.3	3.6
U.S. Citizens							12.0	1.0
Permanent Residents							18.2	5.5
Temporary Residents							20.5	5.4
U.S. Citizens								
Asians							14.6	1.5
Blacks							16.5	1.4
Hispanics							13.7	1.7
Native Americans							9.2	0.0
Whites							11.3	0.8

NOTE: For total numbers of Ph.D.s, see Table 2 (field and gender), Table 3 (citizenship), and Table 5 (race/ethnicity). Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

4. Figure 10; Table 11: The percentages given in Figure 10 and Table 11 are based on the numbers of doctorate recipients in 1993 who reported their *primary* source of support in graduate school. The numbers shown im Table 11 are the base for these percentages; they represent only those Ph.D.s whose primary support is known—*not* the total cohort of Ph.D.s in 1993. Because many recipients answered the support question but failed to designate a *primary* source, nonresponse was quite high in 1993. The reader should note that while nonresponse to primary support has consistently been greater than nonresponse to other variables, it was especially high in the last two years (probably a result of revisions to the questionnaire format). The nonresponse rate for the total cohort of Ph.D.s in 1993 was 33.9 percent, compared to 22.5 percent in 1991 (as reported in *Summary Report 1991*). See next page for nonresponse rates in 1993, as applicable to Figure 10 and Table 11.

4. Figure 10; Table 11 (continued)

Primary Source of Support: Nonresponse Rates in 1993 (%)

	All Fields	Phys. Sci.	Engr.	Life Sci.	Soc. Sci.	Hum.	Educ.	Prof.
All Ph.D.s	33.9	32.5	29.9	32.6	37.0	37.0	34.5	35.8
Men	34.2	32.7	30.3	33.6	38.2	37.9	35.8	36.3
Women	33.6	31.8	25.9	31.3	35.7	36.0	33.6	35.0
U.S. Citizens	30.1	25.1	21.6	29.7	33.5	33.8	31.6	31.0
Permanent Res.	40.2	36.5	37.8	36.8	42.4	47.2	48.0	42.8
Temporary Res.	35.0	37.0	29.8	33.9	39.9	37.7	40.7	38.3
U.S. Citizens								
Asians	31.1	30.8	22.0	31.5	36.5	40.0	41.5	30.8
Blacks	38.9	34.1	34.1	36.1	47.3	44.2	36.5	35.6
Hispanics	38.8	37.1	16.1	34.1	36.8	46.2	45.5	40.0
Native Amers.	35.3	45.5	0.0	21.4	36.8	38.5	38.0	30.0
Whites	29.1	23.9	21.2	29.0	32.3	32.7	30.0	29.9

NOTE: For total numbers of Ph.D.s in each field, see Table 2 (gender), Table 3 (citizenship), and Table 5 (race/ethnicity). Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

5. Figure 11; Tables 12 and 13: Percentages are based on the numbers of doctorate recipients who reported debt related to their *combined undergraduate and graduate education*. Nonresponses are excluded from percentage and median computations.

Educational Debt: Nonresponse Rates in 1993 (%)

	Rate		Rate
All Fields	7.3	Men	7.6
Physical Sciences	7.0	Women	6.8
Engineering	7.4	U.S. Citizens	3.9
Life Sciences	6.6	Permanent Res.	4.8
Social Sciences	8.0	Temporary Res.	6.2
Humanities	6.7	U.S. Asians	3.1
Education	7.6	Blacks	6.6
Professional	8.1	Hispanics	4.2
		Native Amers.	5.9
		Whites	3.4

NOTE: For total numbers of Ph.D.s, see Table 2 (field and gender), Table 3 (citizenship), and Table 5 (race/ethnicity). Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

6. Figures 12-14; Tables 14-19: The question on *postgraduation status* asks recipients to indicate whether they have made a "definite" commitment, are in the process of "negotiating" with one or more organizations, or are seeking a position but with no prospects. Because Ph.D.s sometimes complete the survey form months ahead of graduation, it is not possible to determine the final plans of many recipients. It is quite likely, however, that some individuals who check "negotiating" or "seeking" have obtained positions by the time of graduation. Because many outcomes are unknown, data on postgraduation plans in this report are restricted to the group of Ph.D.s who reported "definite" plans (see next page).[2]

Postgraduation Status: Nonresponse Rates (%)

	1973	1978	1983	1988	1993
All Fields	5.3	7.8	8.7	10.2	9.2
Physical Sciences	5.3	6.4	8.1	9.9	9.3
Engineering	4.1	8.4	11.0	11.6	10.0
Life Sciences	5.1	6.7	8.0	9.1	8.3
Social Sciences	5.7	9.0	9.6	11.4	9.6
Humanities	6.3	8.7	9.4	9.3	8.4
Education	4.2	7.7	7.4	9.5	9.2
Professional/Other	8.4	7.7	8.6	11.8	9.9
Men	4.9	7.3	8.7	10.6	9.4
Women	7.2	9.2	8.6	9.5	8.9
U.S. Citizens	3.5	5.1	4.6	2.5	5.4
Permanent Residents	3.2	6.4	7.8	6.2	9.2
Temporary Residents	4.7	7.6	9.2	6.7	8.7
U.S. & Perm. Res.	3.4	5.2	4.7	2.7	5.7
Asians	N/A	5.6	6.7	6.2	9.1
Blacks	N/A	7.4	4.3	3.7	8.6
Hispanics	N/A	6.9	5.6	2.6	6.5
Native Americans	N/A	6.7	3.7	4.3	8.4
Whites	N/A	3.5	3.6	2.2	4.8

NOTE: N/A = not available. For total numbers of Ph.D.s, see Table 2 (field and gender), Table 3 (citizenship), and Appendix Table B-2 (race/ethnicity by citizenship). Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

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[2] Comparisons with the most recent longitudinal Survey of Doctorate Recipients (SDR) have shown the data on "definite" postgraduation plans to be a reasonable indicator of the actual employment status of new Ph.D.s in the year following receipt of the doctorate, although results vary by sector. (The SDR, also conducted by the National Research Council, is a follow-up employment survey of a sample of doctorate recipients in science, engineering, and humanities fields.) According to the 1991 SDR, 97 percent of the 1990 Ph.D.s who had indicated "definite" employment plans at the time of graduation were in the U.S. labor force as of September 1991 (1-2 years after graduation), and most were working in the sector reported on their survey forms. Disaggregation by citizenship revealed that all permanent residents and 95.3 percent of temporary residents in the sample were employed in the United States in September 1991.

6. Figures 12-14; Tables 14-19 (continued)

The proportions of Ph.D.s with "definite" commitments are given in the next two tables. These percentages are based on the number of Ph.D.s who responded to the question on postgraduation status (see table on previous page for rates of nonresponse to this question).

Year	% Definite	Year	% Definite
1973	75.4	1988	73.8
1978	73.2	1993	67.6
1983	74.1		

NOTE: See Table 1 for total numbers of Ph.D.s. See Table 14 for numbers of Ph.D.s with definite commitments.

The table below displays the ***proportions of Ph.D.s with "definite" commitments in 1993 by field and demographic group, and the range of proportions for the five years included in Figures 12-14 and Tables 14-19 (i.e., 1973, 1978, 1983, 1988, 1993).***

	% Definite Range (1993)		% Definite Range (1993)
All Fields	68-75 (67.6)	Men	67-77 (66.6)
Physical Sciences	67-77 (66.5)	Women	68-72 (69.2)
Engineering	56-76 (56.0)	U.S. Citizens	72-76 (72.1)
Life Sciences	74-77 (74.3)	Permanent Res.	54-65 (53.8)
Social Sciences	67-80 (66.8)	Temporary Res.	58-72 (58.2)
Humanities	61-71 (60.6)	U.S. & Perm. Res.	71-76 (70.8)
Education	73-76 (73.5)	Asians	58-67 (59.6)
Professional	76-88 (76.2)	Blacks	66-70 (65.8)
		Hispanics	69-77 (68.6)
		Native Amers.	57-73 (68.8)
		Whites	72-77 (72.1)

NOTE: For total numbers of Ph.D.s, see Table 2 (field and gender), Table 3 (citizenship), and Appendix Table B-2 (race/ethnicity by citizenship). See Tables 14 and 15 for numbers of Ph.D.s with definite commitments in each year.

Figure 12; Tables 14 and 15: These tables and figure present data on the *type of plans (employment or study) for only those Ph.D.s who reported definite postgraduation commitments; therefore, they do not reflect the entire Ph.D. population.* (See page 90 and the tables above for nonresponses to the question on postgraduation status and the proportions of Ph.D.s with definite commitments.)

Nonresponses to the question on *type of postdoctoral plans (employment or study)* are excluded from the percentage calculations in Figure 12 and Tables 14 and 15. As is evident from the table on the next page, rates of nonresponse were very low in every year and for all fields and demographic groups.

6. Figures 12-14; Tables 14-19 (continued)

Figure 12, Tables 14 and 15 (continued)

Employment/Study Plans of Ph.D.s with Definite Commitments: Nonresponse Rates (%)

	1973	1978	1983	1988	1993
All Fields	0.7	0.8	0.3	0.9	0.7
Physical Sciences	0.2	0.4	0.3	0.6	0.6
Engineering	0.3	0.5	0.3	0.6	0.4
Life Sciences	0.5	0.7	0.2	0.5	0.4
Social Sciences	0.6	0.7	0.3	1.0	0.7
Humanities	1.1	1.0	0.3	1.5	1.2
Education	0.8	1.2	0.2	1.5	0.9
Professional/Other	1.1	0.7	0.4	0.9	0.6
Men	0.6	0.7	0.3	0.9	0.6
Women	0.8	1.1	0.3	1.0	0.8
U.S. Citizens	0.6	0.7	0.2	0.8	0.6
Permanent Residents	1.0	1.0	0.1	1.5	1.4
Temporary Residents	0.9	1.8	0.8	1.3	0.9
U.S. & Perm. Res.	0.6	0.7	0.2	0.9	0.6
Asians	N/A	1.4	0.5	1.3	0.9
Blacks	N/A	1.8	0.4	1.2	1.0
Hispanics	N/A	0.3	0.2	1.6	0.5
Native Americans	N/A	0.0	0.0	1.6	0.0
Whites	N/A	0.6	0.2	0.8	0.6

NOTE: N/A = not available. See Tables 14 and 15 for total numbers of Ph.D.s with definite commitments. Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

Figure 13; Table 16: **Figure 13** gives the *proportions of non-U.S. citizens who reported plans to stay in the United States after graduation.* **Table 16** shows the *percentages of both those who planned to stay in the United States and those who planned to leave.* Only Ph.D.s who reported definite commitments are included (see page 90 for rates of nonresponse to the question on postgraduation status). Nonresponses to the question on postdoctoral location are excluded from the percentage calculations in Figure 13 and Table 16 (see table on next page).

6. Figures 12-14; Tables 14-19 (continued)

Figure 13; Table 16 (continued)

Postdoctoral Location of Non-U.S. Citizen Ph.D.s with Definite Commitments: Nonresponse Rates (%)

	1973	1978	1983	1988	1993
Permanent Residents	4.4	4.7	8.2	8.7	0.5
Temporary Residents	2.6	5.2	7.1	9.9	1.4

NOTE: The much lower nonresponse in 1993 was largely a result of a questionnaire revision that allowed the recipient to check a box for "U.S." or "non-U.S." instead of naming a specific state or foreign country. See Table 16 for total numbers of non-U.S. Ph.D.s with definite commitments. Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

Table 17: This table presents data on the *postdoctoral location and type of plans (employment or study) for only those non-U.S. citizens who reported definite commitments* (see page 90 for nonresponses to the question on postgraduation status). Percentages in Table 17 are based on the number of non-U.S. Ph.D.s who reported *both* postdoctoral location and type of plans. Nonresponse rates for these questions are given below.

Postdoctoral Location/Type of Plans of Non-U.S. Citizens with Definite Commitments: Nonresponse Rates in 1993 (%)

	Permanent Residents	Temporary Residents
All Fields	1.7	2.3
Physical Sciences	0.5	2.6
Engineering	2.0	2.2
Life Sciences	1.2	2.5
Social Sciences	1.3	1.8
Humanities	3.9	1.7
Education	5.9	2.0
Professional/Other	0.0	1.9

NOTE: Numbers were low for Ph.D.s not reporting both postdoctoral location and type of plans: a total of 19 permanent residents and 119 temporary residents. See Table 15 for total numbers of non-U.S. Ph.D.s with definite commitments. Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the combination of selected variables.

6. Figures 12-14; Tables 14-19 (continued)

Figure 14; Tables 18 and 19: As with the other tables on postgraduation plans, Figure 14 and Tables 18 and 19 do not include data on the entire Ph.D. cohort. Rather, they display the *type of employer (i.e., sector) for only those Ph.D.s who reported definite commitments in the United States.* (See pages 90-92 for rates of nonresponse to the questions on postgraduation status and type of plans.)

The table below shows the ***proportions of all Ph.D.s with definite commitments (and known type of plans) who reported employment in the United States.***

	U.S. Citizens and Permanent Residents	Temporary Residents
1973	82.3	15.1
1978	79.3	19.1
1983	78.3	21.8
1988	74.3	23.9
1993	71.7	25.3

NOTE: See Table 15 for total numbers of Ph.D.s with definite commitments. See Table 19 for numbers of Ph.D.s with employment commitments in the United States.

Nonresponses to the question on *employment sector* are excluded from the percentages in Figure 14 and Tables 18 and 19. As can be seen in the following two tables, nonresponse was very low in all years.

Figure 14; Table 18

Employment Sector of Ph.D.s with Definite Plans to Work in the United States: Nonresponse Rates by Field (%) (U.S. citizens and permanent residents)

	1973	1978	1983	1988	1993
All Fields	0.5	0.6	1.0	1.0	1.5
Physical Sciences	0.3	0.2	0.2	0.4	0.5
Engineering	0.3	0.6	0.1	0.2	0.4
Life Sciences	0.3	0.1	0.6	0.8	0.9
Social Sciences	0.4	0.7	1.2	1.5	2.5
Humanities	0.6	0.6	1.2	1.0	0.9
Education	0.7	0.8	1.7	1.3	2.2
Professional/Other	0.3	0.1	0.3	0.5	0.8

NOTE: See Table 18 for numbers of U.S. citizen and permanent resident Ph.D.s who reported employment commitments in the United States. Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

6. Figures 12-14; Tables 14-19 (continued)

Table 19

Employment Sector of Ph.D.s with Definite Plans to Work in the United States: Nonresponse Rates by Demographic Group (%)

	1973	1978	1983	1988	1993
U.S. Citizens	0.4	0.5	1.0	1.0	1.5
Permanent Residents	1.0	1.1	2.0	0.9	2.0
Temporary Residents	0.0	0.2	0.0	0.0	1.7
U.S. & Perm. Res.	0.5	0.6	1.0	1.0	1.5
Men	0.4	0.5	0.8	0.7	1.2
Women	0.8	0.7	1.5	1.3	1.9
Asians	N/A	1.4	1.1	0.4	1.2
Blacks	N/A	2.0	3.0	1.8	2.9
Hispanics	N/A	1.9	2.8	1.2	2.7
Native Americans	N/A	0.0	2.3	0.0	1.6
Whites	N/A	0.4	0.8	0.9	1.4

NOTE: N/A = not available. See Table 19 for numbers of Ph.D.s with employment commitments in the United States. Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

SURVEY OF EARNED DOCTORATES 1992-93

Please return this form to the GRADUATE DEAN for forwarding to
The Office of Scientific and Engineering Personnel, National Research Council • 2101 Constitution Avenue, N.W., Washington, D.C. 20418

Please print or type.

1. Name in full: _____ (Last Name) _____ (First Name) _____ (Middle Name)
   Cross Reference: Maiden name or former name legally changed _____

2. Permanent address through which you could always be reached: (Care of, if applicable) _____
   _____ (Number) _____ (Street) _____ (City)
   _____ (State) _____ (Zip Code) _____ (Or Country if not U.S.)

3. U.S. Social Security Number: ___ ___ ___ - ___ ___ - ___ ___ ___ ___

4. Place of birth: _____ (State) _____ (or Country if not U.S.)
   Date of birth: _____ (Month) _____ (Day) _____ (Year)

5. Sex: 1 ☐ Male
   2 ☐ Female

6. Marital status: 0 ☐ Single, never married
   1 ☐ Married
   2 ☐ Separated, divorced, widowed

7. Citizenship
   0 ☐ United States, native
   1 ☐ United States, naturalized
   Non-United States:
   2 ☐ Permanent Resident of United States (Immigrant visa)
   → _____ (Country of present citizenship)
   3 ☐ Temporary Resident of United States (Non-immigrant visa)
   → _____ (Country of present citizenship)

8. Are you a person with a disability? ☐ Yes ☐ No
   If yes, is it: 1 ☐ Visual 2 ☐ Orthopedic (mobility)
   3 ☐ Auditory (hearing) 4 ☐ Vocal
   5 ☐ Other (specify) _____

9. What is your racial background? (Check only one.)
   0 ☐ American Indian or Alaskan Native
   1 ☐ Asian or Pacific Islander
   2 ☐ Black
   3 ☐ White

10. Are you Hispanic? ☐ No ☐ Yes → 0 ☐ Mexican American
    1 ☐ Puerto Rican
    2 ☐ Other Hispanic

11. How many dependents do you have? _____ Do not include yourself.
    (Dependent = someone receiving at least one half of his or her support from you.)

EDUCATION

12. Location of high school/secondary school last attended: _____ (State) _____ (or Country if not U.S.)
    Date of graduation from high school: _____ (Month/Year)

13. List below, chronologically, all colleges (including 2-year) and graduate institutions you have attended and each degree earned (if any). Be sure to give the years attended for ALL institutions attended. Include your doctoral institution(s) (and degree) at the end.

Institution/Branch	State/Country	Years Attended From	Years Attended To	Field of Study — Use Specialties List: Name	Field of Study — Use Specialties List: Number	Degree (if any): Title	Degree Granted: Mo	Degree Granted: Yr
EXAMPLE *Genesee Community College*	*NY*	*79*	*81*	*Math*	*498*	—	—	—
SUNY/Buffalo	*NY*	*81*	*83*	*Computer Science*	*400*	*B.S.*	*6*	*83*

If a baccalaureate degree (or equivalent) was never received, please check box. ☐

14. How many years were you a **full-time** student between receiving your first baccalaureate degree (or equivalent) and receiving your doctorate (include the period spent on your thesis and/or dissertation). _____ (whole numbers)

15. Identify the field of your dissertation research and enter below the title of your dissertation. If a project report or a musical or literary composition is a degree requirement in lieu of a dissertation, please check box ☐ Name of field _____ Number of field _____ (Use Specialties List)
    Title _____

16. Name the department (or interdisciplinary committee, center, institute, etc.) and school or college of the university which supervised your doctoral program.
    _____ (Department/Institute/Committee/Program) _____ (School)

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(continued on next page)

BEST COPY AVAILABLE

17. Please indicate all your sources of support during graduate school. Indicate your **primary** and **secondary** sources of support by entering "1" or "2" in the appropriate box. Check (✓) all other sources from which support was received, if any. (Enter only one source as "1" and one source as "2.")

Own/Family Resources
01 ☐ Own Earnings
02 ☐ Spouse's Earnings
03 ☐ Family Contributions

University-Related
10 ☐ Teaching Assistant
11 ☐ Research Assistant
12 ☐ University Fellow
14 ☐ College Work-Study
19 ☐ Other
_____ Specify

Federal Research Assistant
22 ☐ NIH
32 ☐ NSF
52 ☐ USDA
62 ☐ Other Federal
_____ Specify

Other Federal Support
21 ☐ NIH Traineeship/Fellowship
29 ☐ Other HHS
33 ☐ NSF Fellowship
40 ☐ Patricia Roberts-Harris Fellowship — formerly G*POP (Department of Education)
44 ☐ Title VI Foreign Language

Other Federal Support (continued)
49 ☐ Other Dept. Education
60 ☐ Veterans Administration
53 ☐ USDA Fellowship
69 ☐ Other Federal
_____ Specify

U.S. Nationally Competitive Fellowships (Non-Federal)
70 ☐ Ford Foundation
71 ☐ Rockefeller Foundation
73 ☐ Mellon Foundation
78 ☐ Other Fellowship
_____ Specify

Student Loans
80 ☐ Guaranteed Student Loan (Stafford Loan)
81 ☐ Perkins Loan — formerly National Direct Student Loan
89 ☐ Other Loan
_____ Specify

Other Sources
90 ☐ Business/Employer
91 ☐ Foreign (Non-U.S.) Government
92 ☐ State Government
99 ☐ Other
_____ Specify

18. When you receive your doctorate degree, how much money will you owe that is directly related to your undergraduate and/or graduate education (tuition and fees, living expenses and supplies, transportation to and from school)?

0 ☐ None
1 ☐ $5,000 or less
2 ☐ $5,001-$10,000
3 ☐ $10,001-$15,000
4 ☐ $15,001-$20,000
5 ☐ $20,001-$25,000
6 ☐ $25,001-$30,000
7 ☐ $30,001 or more

19A. Please check the category that most fully describes your status for employment or study during the year immediately preceding the award of the doctorate.

0 ☐ Full-time employed → Go to item 19B →
1 ☐ Held fellowship
2 ☐ Held assistantship
3 ☐ Part-time employed
4 ☐ Not employed
5 ☐ Other (specify) _____

B. If full-time employed, what type of position did you hold?

6 ☐ College or university, faculty
7 ☐ College or university, non-faculty
8 ☐ Elementary or secondary school, teaching
9 ☐ Elementary or secondary school, non-teaching
(11) ☐ Industry or business
(12) ☐ Other (specify) _____

POSTGRADUATION PLANS

20. How definite are your immediate postgraduate plans?

0 ☐ Am returning to, or continuing in, predoctoral employment
1 ☐ Have signed contract or made definite commitment
2 ☐ Am negotiating with one or more specific organizations
3 ☐ Am seeking position but have no specific prospects
4 ☐ Other (specify) _____

21. What best describes your immediate postgraduate plans?

Study
0 ☐ Postdoctoral fellowship
1 ☐ Postdoctoral research associateship
2 ☐ Traineeship
3 ☐ Other study (specify) _____
→ For **study** plans go to item 22

4 ☐ **Employment** (other than 0, 1, 2, 3)
5 ☐ **Military service**
6 ☐ **Other** (specify) _____
→ For **employment** plans go to item 23

22. If you plan to have a postdoctoral fellowship, associateship, traineeship, or otherwise undertake further **study,**

A. What will be the field of your postdoctoral **study?** Please enter number from **Specialties List.** _____

B. What will be the main source of financial support for your study research?

0 ☐ U.S. Government
1 ☐ College or university
2 ☐ Private foundation
3 ☐ Nonprofit, other than private foundation
4 ☐ Other (specify) _____
6 ☐ Unknown

Go to item 24

23. If you plan to be **employed, enter military service** or **other:**

A. For what type of **employer** will you be working?

Education
a ☐ U.S. 4-yr college or university other than medical school
b ☐ U.S. medical school
c ☐ U.S. jr. or community college
d ☐ Elementary or secondary school
e ☐ Foreign institution

Government
f ☐ Foreign government
g ☐ U.S. federal government
h ☐ U.S. state government
i ☐ U.S. local government

Private Sector
j ☐ Nonprofit organization
k ☐ Industry or business
l ☐ Self-employed

Other
m ☐ Other (specify) _____

B. Indicate what your **primary** and **secondary** work activities will be by entering "1" or "2" in the appropriate box.

0 ☐ Research and development
1 ☐ Teaching
2 ☐ Administration
3 ☐ Professional services to individuals
5 ☐ Other (specify) _____

C. In what field will you be working? Please enter number from **Specialties List** _____

Go to item 24

24. Where do you intend to live/work/study after graduation? 0 ☐ in U.S. _____ (State) 1 ☐ not in U.S. _____ (Country)

_____ (Name of Organization, if known) _____ (City of Organization, if known)

25. What is the highest educational attainment of your mother and father? Please circle.

	Less than high school	High school graduate	Some college	Bachelor's	Master's	Professional	Doctorate
Father							
Mother							
Codes for office use	1	2	3	4	5	6	7

Signature _____ Date _____

If you would like a summary of the results of this survey, please check box. ☐ (Available as funding permits.)

Instructions: The following field listing is to be used in responding to items 13, 15, 22A, and 23C. If a field marked with an asterisk (*) is chosen in item 13, please write in your field of specialization in the space provided.

AGRICULTURAL SCIENCES

000 Agricultural Economics
002 Agricultural Business & Mgmt.
005 Animal Breeding & Genetics
010 Animal Nutrition
012 Dairy Science
014 Poultry Science
055 Fisheries Sci. & Mgmt.
019 Animal Sciences, Other*
020 Agronomy & Crop Science
025 Plant Breeding & Genetics
030 Plant Path. (See also 120)
039 Plant Sciences, Other*
042 Food Distribution
043 Food Engineering
044 Food Sciences, Other*
046 Soil Chemistry/Microbiology
049 Soil Sciences, Other*
050 Horticulture Science
066 Forest Biology
068 Forest Engineering
070 Forest Management
072 Wood Sci. & Pulp/Paper Tech.
074 Conserv./Renewable Nat. Res.
079 Forestry & Related Sci., Other*
080 Wildlife/Range Management
098 Agricultural Sci., General
099 Agricultural Sci., Other*

BIOLOGICAL SCIENCES

100 Biochemistry
105 Biophysics
107 Biotechnology Research
110 Bacteriology
115 Plant Genetics
120 Plant Path. (See also 030)
125 Plant Physiology
129 Botany, Other*
130 Anatomy
133 Biometrics & Biostatistics
136 Cell Biology (See also 154)
139 Ecology
142 Developmental Bio./Embry.
145 Endocrinology
148 Entomology
151 Biological Immunology
154 Molecular Biology
157 Microbiology
160 Neuroscience
163 Nutritional Sciences
166 Parasitology
169 Toxicology
170 Genetics, Human & Animal
175 Pathology, Human & Animal (See also 120)
180 Pharmacology, Hum. & Anim.
185 Physiology, Human & Animal
189 Zoology, Other*
198 Biological Sciences, General
199 Biological Sciences, Other*

HEALTH SCIENCES

200 Speech-Lang. Path. & Audiol.
210 Environmental Health
212 Health Syst./Serv. Admin.
215 Public Health (See also 133)
220 Epidemiology
230 Nursing
240 Pharmacy
245 Rehabilitation/Therapeutic Services
250 Veterinary Medicine
298 Health Sciences, General
299 Health Sciences, Other*

ENGINEERING

300 Aerospace, Aeronautical & Astronautical
303 Agricultural
306 Bioengineering & Biomedical
309 Ceramic Sciences
312 Chemical
315 Civil
318 Communications
321 Computer
324 Electrical & Electronics
327 Engineering Mechanics
330 Engineering Physics
333 Engineering Science
336 Environmental Health Engin.
339 Industrial & Manufacturing
342 Materials Science
345 Mechanical
348 Metallurgical
351 Mining & Mineral
357 Nuclear
360 Ocean
363 Operations Research (See also 465, 930)
366 Petroleum
369 Polymer & Plastics
372 Systems
398 Engineering, General
399 Engineering, Other*

COMPUTER AND INFORMATION SCIENCES

400 Computer Science
410 Information Sci. & Systems*

MATHEMATICS

420 Applied Mathematics
425 Algebra
430 Analysis & Functional Analysis
435 Geometry
440 Logic (See also 785)
445 Number Theory
450 Mathematical Statistics
455 Topology
460 Computing Theory & Practice
465 Operations Research (See also 363, 930)
498 Mathematics, General
499 Mathematics, Other*

PHYSICAL SCIENCES

Astronomy

500 Astronomy
505 Astrophysics

Atmospheric Sciences and Meteorology

510 Atmospheric Physics & Chem.
512 Atmospheric Dynamics
514 Meteorology
518 Atmos. Sci./Meteorol., Gen.
519 Atmos. Sci./Meteorol., Other*

Chemistry

520 Analytical
522 Inorganic
524 Nuclear
526 Organic
528 Medicinal/Pharmaceutical
530 Physical
532 Polymer
534 Theoretical
538 Chemistry, General
539 Chemistry, Other* (See 100 Biochemistry)

Geological & Related Sciences

540 Geology
542 Geochemistry
544 Geophysics & Seismology
546 Paleontology
548 Mineralogy & Petrology
550 Stratigraphy & Sedimentation
552 Geomorphology & Glacial Geol.
558 Geolog. & Relat. Sci., Gen.
559 Geolog. & Relat. Sci., Other*

Physics

560 Acoustics
561 Chemical & Atomic/Molecular
564 Elementary Particle
566 Fluids
568 Nuclear
569 Optics
570 Plasma & High-Temperature
572 Polymer
574 Solid State & Low-Temperature
578 Physics, General
579 Physics, Other*

Miscellaneous Physical Sciences

580 Environmental Science
585 Hydrology & Water Resources
590 Oceanography
595 Marine Sciences
599 Misc. Physical Sci., Other*

PSYCHOLOGY

600 Clinical
603 Cognitive & Psycholinguistics
606 Comparative
609 Counseling
612 Developmental & Child
615 Experimental
618 Educational (See also 822)
621 Industrial & Organizational (See also 935)
624 Personality
627 Physiological/Psychobiology
630 Psychometrics
633 Quantitative
636 School (See also 825)
639 Social
648 Psychology, General
649 Psychology, Other*

SOCIAL SCIENCES

650 Anthropology
652 Area Studies
658 Criminology
662 Demography/Population Studies
666 Economics
668 Econometrics
670 Geography
674 Int'l Relations/Affairs
678 Political Sci. & Government
682 Public Policy Analysis
686 Sociology
690 Statistics (See also 450)
694 Urban Affairs/Studies
698 Social Sciences, General
699 Social Sciences, Other*

HUMANITIES

History

700 History, American
705 History, European
710 History/Phil. of Sci. & Tech.
718 History, General
719 History, Other*

Letters

720 Classics
723 Comparative Literature
729 Linguistics
732 Literature, American
733 Literature, English
734 English Language
736 Speech & Rhetorical Studies
738 Letters, General
739 Letters, Other*

Foreign Languages and Literature

740 French
743 German
746 Italian
749 Spanish
752 Russian
755 Slavic (other than Russian)
758 Chinese
762 Japanese
765 Hebrew
768 Arabic
769 Other Lang. & Lit.*

Other Humanities

770 American Studies
773 Archeology
776 Art History/Crit./Conserv.
780 Music
785 Philosophy (See also 440)
790 Religion (See also 984)
795 Drama/Theater Arts
798 Humanities, General
799 Humanities, Other*

EDUCATION

800 Curriculum & Instruction
805 Educational Admin. & Supervision
807 Educational Leadership
810 Educ./Instruct. Media Design
815 Educ. Stat./Research Methods
820 Educ. Assess./Test./Meas.
822 Educational Psychology (See also 618)
825 School Psychology (See also 636)
830 Social/Phil. Found. of Educ.
835 Special Education
840 Counseling Educ./Couns. & Guidance Services
845 Educ. Evaluation & Research

Teacher Education

850 Pre-elem./Early Childhood
852 Elementary
856 Secondary
858 Adult & Continuing

Teaching Fields

860 Agricultural Education
861 Art Education
862 Business Education
864 English Education
866 Foreign Languages Education
868 Health Education
870 Home Economics Education
872 Tech. & Indust. Arts Education
874 Mathematics Education
876 Music Education
878 Nursing Education
880 Physical Education & Coaching
882 Reading Education
884 Science Education
885 Social Science Education
887 Technical Education
888 Trade & Industrial Education
889 Teacher Educ., Specific Acad. & Voc. Prog., Other*
898 Education, General
899 Education, Other*

PROFESSIONAL FIELDS

Business Management and Administrative Services

900 Accounting
905 Banking/Financ. Support Serv.
910 Business Admin. & Mgmt.
915 Business/Managerial Economics
917 Mgmt. Inf. Sys./Bus. Data Proc.
920 Marketing Mgmt. & Research
930 Operations Research (See also 363, 465)
935 Organiz. Behav. (See also 621)
938 Bus. Mgmt./Admin. Serv., Gen.
939 Bus. Mgmt./Admin. Serv., Other*

Communications

940 Communications Research
947 Mass Communications
957 Communication Theory
958 Communications, General
959 Communications, Other* (See also 736)

Other Professional Fields

960 Architec. Environ. Design
964 Home Economics
968 Law
972 Library Science
974 Parks/Rec./Leisure/Fitness
976 Public Administration
980 Social Work
984 Theol./Relig. Ed. (See also 790)
988 Professional Fields, General
989 Professional Fields, Other*

999 OTHER FIELDS*

The appendix tables present data according to the following field classifications. Appendix Tables A-1 and A-2 and Appendix Table B-1 display all subfields that are on the survey Specialties List. Appendix Tables A-4, A-5, and A-6 show data by seven broad fields only. Appendix Tables A-3 and A-7 include the additional field groupings indicated below.

SCIENCES

Physical Sciences (400-599)
- Physics and Astronomy (500-505, 560-579)
- Chemistry (520-539)
- Earth, Atmospheric, and Marine Sciences (510-519, 540-559, 580-599)
- Mathematics (420-499)
- Computer Sciences (400-410)

} Combined in Table A-7

Engineering (300-399)

Life Sciences (000-299)
- Biological Sciences (100-199)
  - Biochemistry (100)
  - Other Biological Sciences (105-199)
- Health Sciences (200-299)
- Agricultural Sciences (000-099)

Social Sciences (600-699)
- Psychology (600-649)
- Economics and Econometrics (666, 668)
- Anthropology and Sociology (650, 686)
- Political Science and International Relations (674, 678)
- Other Social Sciences (652-662, 670, 682, 690-699)

} Combined in Table A-7

NONSCIENCES

Humanities (700-799)
- History (700-719)
- English and American Language and Literature (732-734)
- Foreign Languages and Literature (740-769)
- Other Humanities (720-729, 736-739, 770-799)

} Combined in Table A-7

Education (800-899)

Professional and Other Fields (900-999)
- Business and Management (900-939)
- Other Professional Fields (940-989)
- Other Fields (999)

NOTE: Doctorate recipients indicate their fields of speciality. Their choices may differ from departmental names.

TITLES OF RESEARCH DEGREES INCLUDED IN THE SURVEY OF EARNED DOCTORATES

DA/DAT	Doctor of Arts/Arts in Teaching	DMSc	Doctor of Medical Science
DArch	Doctor of Architecture	DNSc	Doctor of Nursing Science
DAS	Doctor of Applied Science	DPA	Doctor of Public Administration
DBA	Doctor of Business Administration	DPE	Doctor of Physical Education
DChem	Doctor of Chemistry	DPH	Doctor of Public Health
DCJ	Doctor of Criminal Justice	DPS	Doctor of Professional Studies
DCL	Doctor of Comparative Law/Civil Law	DrDES	Doctor of Design
DCrim	Doctor of Criminology	DRE	Doctor of Religious Education
DED	Doctor of Environmental Design	DRec/DR	Doctor of Recreation
DEng	Doctor of Engineering	DSc/ScD	Doctor of Science
DEnv	Doctor of Environment	DScD	Doctor of Science in Dentistry
DESc/ScDE	Doctor of Engineering Science	DScH	Doctor of Science and Hygiene
DF	Doctor of Forestry	DScVM	Doctor of Science in Veterinary Medicine
DFA	Doctor of Fine Arts	DSM	Doctor of Sacred Music
DGS	Doctor of Geological Science	DSSc	Doctor of Social Science
DHL	Doctor of Hebrew Literature/Letters	DSW	Doctor of Social Work
DHS	Doctor of Health and Safety	EdD	Doctor of Education
DHS	Doctor of Hebrew Studies	JCD	Doctor of Canon Law
DIT	Doctor of Industrial Technology	JSD	Doctor of Juristic Science
DLS	Doctor of Library Science	LScD	Doctor of Science of Law
DM	Doctor of Music	PhD	Doctor of Philosophy
DMA	Doctor of Musical Arts	RhD	Doctor of Rehabilitation
DME	Doctor of Musical Education	SJD	Doctor of Juridical Science
DMin/DM	Doctor of Ministry	STD	Doctor of Sacred Theology
DML	Doctor of Modern Languages	ThD	Doctor of Theology
DMM	Doctor of Music Ministry		

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